

**UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF NEW YORK**

UNITED STATES OF AMERICA

Plaintiff

v.

Civil Action No. 1:24-cv-305

KYOCERA AVX COMPONENTS
CORPORATION.

Defendant.

CONSENT DECREE

TABLE OF CONTENTS

I.	BACKGROUND	3
II.	JURISDICTION AND VENUE	4
III.	PARTIES BOUND	4
IV.	DEFINITIONS.....	5
V.	OBJECTIVES	8
VI.	PERFORMANCE OF THE WORK.....	8
VII.	PROPERTY REQUIREMENTS	9
VIII.	FINANCIAL ASSURANCE	10
IX.	INDEMNIFICATION AND INSURANCE	14
X.	PAYMENTS FOR RESPONSE COSTS	16
XI.	FORCE MAJEURE	17
XII.	DISPUTE RESOLUTION	18
XIII.	STIPULATED PENALTIES	19
XIV.	COVENANTS BY PLAINTIFF	21
XV.	COVENANTS BY SETTLING DEFENDANT	22
XVI.	EFFECT OF SETTLEMENT; CONTRIBUTION	23
XVII.	RECORDS	23
XVIII.	NOTICES AND SUBMISSIONS.....	25
XIX.	APPENDIXES	26
XX.	MODIFICATIONS TO DECREE	27
XXI.	SIGNATORIES	27
XXII.	PRE-ENTRY PROVISIONS	27
XXIII.	INTEGRATION	27
XXIV.	FINAL JUDGMENT	27

I. BACKGROUND

1. The United States of America (“United States”), on behalf of the Administrator of the United States Environmental Protection Agency (“EPA”), filed a complaint in this matter under sections 106 and 107 of the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”).

2. The United States in its complaint seeks, *inter alia*: (1) reimbursement of costs incurred by EPA and the Department of Justice (“DOJ”) for response actions at Operable Unit 5 (“OU5”) at the Olean Well Field Superfund Site in Olean, Cattaraugus County, New York (“Site”), together with accrued interest; and (2) performance by the defendant of a response action at the Site consistent with the National Contingency Plan, 40 C.F.R. part 300 (“NCP”).

3. In accordance with the NCP and section 121(f)(1)(F) of CERCLA, EPA notified the State of New York (“State”) on September 29, 2023, of negotiations with the potentially responsible party (“PRP”) regarding the implementation of the remedial design and remedial action (“RD/RA”) for OU5 at the Site, and EPA has provided the State with an opportunity to participate in such negotiations and to be a party to this Consent Decree (“Decree”).

4. In accordance with section 122(j)(1) of CERCLA, EPA notified the U.S. Department of the Interior and the National Oceanic and Atmospheric Administration on September 29, 2023, of negotiations with the PRP regarding the release of hazardous substances that may have resulted in injury to the natural resources under federal trusteeship and encouraged the trustee(s) to participate in the negotiation of this Decree.

5. The defendant that has entered into this Decree (“Settling Defendant”) does not admit any liability to Plaintiff arising out of the transactions or occurrences alleged in the complaint, nor does it acknowledge that the release or threatened release of hazardous substance(s) at or from the Site constitutes an imminent and substantial endangerment to the public health or welfare or the environment.

6. In accordance with section 105 of CERCLA, EPA listed the Site on the National Priorities List (“NPL”), set forth at 40 C.F.R. part 300, Appendix B, by publication in the Federal Register on September 9, 1983, Fed. Reg. 40658.

7. In response to a release or a substantial threat of a release of hazardous substances at or from the Site, Settling Defendant completed a Remedial Investigation for OU5 at the Site (entitled Feasibility Study Investigation Report or FSIR) on July 27, 2023, and a Feasibility Study for OU5 at the Site also on July 27, 2023, in accordance with 40 C.F.R. § 300.430.

8. In accordance with section 117 of CERCLA and 40 C.F.R. § 300.430(f), EPA published notice of the completion of the Feasibility Study and of the proposed plan for remedial action at OU5 at the Site on July 27, 2023, in a major local newspaper of general circulation. EPA provided an opportunity for written and oral comments from the public on the proposed plan for remedial action. A copy of the transcript of the public meeting and comments received are available to the public as part of the administrative record upon which the Director of the

Superfund and Emergency Management Division, EPA Region 2, based the selection of the response action.

9. EPA selected a remedial action to be implemented at OU5 at the Site, which is embodied in a final OU5 Record of Decision (“Record of Decision”), executed on September 27, 2023. The Record of Decision includes a summary of responses to the public comments. Notice of the final plan was published in accordance with section 117(b) of CERCLA. According to the Record of Decision, OU5 “is the final planned phase of response activities at the AVX Property. OU5 addresses soil contamination located beneath and near the former AVX manufacturing building in the northern portion of the Historical Source Area. The OU5 remedy, in conjunction with the OU2 AVX ROD Amendment, constitutes the final remedy for the AVX Property.” The Parties recognize that Settling Defendant is performing work at two other operable units on or near the AVX Property at the Site, Operable Unit 2 (“OU2”) and Operable Unit 4 (“OU4”) under other agreements with EPA. This Decree does not apply to Settling Defendant’s work at OU2 or OU4.

10. Based on the information currently available, EPA has determined that the Work will be properly and promptly conducted by Settling Defendant if conducted in accordance with this Decree.

11. The Parties recognize, and the Court by entering this Decree finds, that this Decree has been negotiated by the Parties in good faith, that implementation of this Decree will expedite the cleanup of the Site and will avoid prolonged and complicated litigation between the Parties, and that this Decree is fair, reasonable, in the public interest, and consistent with CERCLA.

NOW, THEREFORE, it is hereby **ORDERED** and **DECREED** as follows:

II. JURISDICTION AND VENUE

12. This Court has jurisdiction over the subject matter of this action under 28 U.S.C. §§ 1331 and 1345, and sections 106, 107 and 113(b) of CERCLA, and personal jurisdiction over the Parties. Venue lies in this District under section 113(b) of CERCLA and 28 U.S.C. §§ 1391(b), and 1395(a), because the Site is located in this judicial district. This Court retains jurisdiction over the subject matter of this action and over the Parties for the purpose of resolving disputes arising under this Decree, entering orders modifying this Decree, or effectuating or enforcing compliance with this Decree. Settling Defendant may not challenge the terms of this Decree or this Court’s jurisdiction to enter and enforce this Decree.

III. PARTIES BOUND

13. This Decree is binding upon the United States and upon Settling Defendant and its successors. Unless the United States otherwise consents, (a) any change in ownership or corporate or other legal status of Settling Defendant, including any transfer of assets, or (b) any Transfer of the Site or any portion thereof, does not alter any of Settling Defendant’s obligations under this Decree. Settling Defendant’s responsibilities under this Decree cannot be assigned except under a modification executed in accordance with ¶ 75.

14. In any action to enforce this Decree, Settling Defendant may not raise as a defense the failure of any of its officers, directors, employees, agents, contractors, subcontractors, or any person representing Settling Defendant to take any action necessary to comply with this Decree. Settling Defendant shall provide notice of this Decree to each person representing Settling Defendant with respect to the Site or the Work. Settling Defendant shall provide notice of this Decree to each contractor performing any Work and shall ensure that notice of the Decree is provided to each subcontractor performing any Work.

IV. DEFINITIONS

15. Subject to the next sentence, terms used in this Decree that are defined in CERCLA or the regulations promulgated under CERCLA have the meanings assigned to them in CERCLA and the regulations promulgated under CERCLA. Whenever the terms set forth below are used in this Decree, the following definitions apply:

“CERCLA” means the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9601-9675.

“Consent Decree” or “Decree” means this consent decree, all appendixes attached hereto (listed in Section XIX), and all deliverables incorporated into the Decree under ¶ [7.6] of the SOW. If there is a conflict between a provision in Sections I through XXIV and a provision in any appendix or deliverable, the provision in Sections I through XXIV controls.

“Day” or “day” means a calendar day. In computing any period under this Decree, the day of the event that triggers the period is not counted and, where the last day is not a working day, the period runs until the close of business of the next working day. “Working day” means any day other than a Saturday, Sunday, or federal or State holiday.

“DOJ” means the United States Department of Justice.

“Effective Date” means the date upon which the Court’s approval of this Decree is recorded on its docket.

“EPA” means the United States Environmental Protection Agency.

“Fund” means the Hazardous Substance Superfund established under section 9507 of the Internal Revenue Code, 26 I.R.C. § 9507.

“Future Response Costs” means all costs (including direct, indirect, payroll, contractor, travel, and laboratory costs) that the United States: (a) pays between July 1, 2023, and the Effective Date; and (b) pays after the Effective Date in implementing, overseeing, or enforcing this Decree, including: (i) in developing, reviewing and approving deliverables generated under this Decree; (ii) in overseeing Settling Defendant’s performance of the Work; (iii) in assisting or taking action to obtain access or use restrictions under ¶ 22.e; (iv) in securing, implementing, monitoring, maintaining, or enforcing Institutional Controls, including any compensation paid; (v) in taking action under ¶ 30 (Access to Financial Assurance); (vi) in taking response action described in ¶ 58 because of Settling Defendant’s failure to take emergency action under ¶ [5.4] of the SOW; (vii) in implementing a Work Takeover under ¶ 19; (viii) in implementing

community involvement activities including the cost of any technical assistance grant provided under section 117(e) of CERCLA; (ix) in enforcing this Decree, including all costs paid under Section XII (Dispute Resolution) and all litigation costs; and (x) in conducting periodic reviews in accordance with section 121(c) of CERCLA. Future Response Costs also includes all Interest accrued after June 30, 2023, on EPA's unreimbursed costs (including Past Response Costs) under section 107(a) of CERCLA.

“Including” or “including” means “including but not limited to.”

“Institutional Controls” means Proprietary Controls (*i.e.*, easements or covenants running with the land that (i) limit land, water, or other resource use, provide access rights, or both and (ii) are created under common law or statutory law by an instrument that is recorded, or for which notice is recorded, in the appropriate land records office) and state or local laws, regulations, ordinances, zoning restrictions, or other governmental controls or notices that: (a) limit land, water, or other resource use to minimize the potential for human exposure to Waste Material at or in connection with the Site; (b) limit land, water, or other resource use to implement, ensure noninterference with, or ensure the protectiveness of the Remedial Action; (c) provide information intended to modify or guide human behavior at or in connection with the Site; or (d) any combination thereof.

“Interest” means interest at the rate specified for interest on investments of the Fund, as provided under section 107(a) of CERCLA, compounded annually on October 1 of each year. The applicable rate of interest will be the rate in effect at the time the interest accrues. The rate of interest is subject to change on October 1 of each year. As of the date of lodging of this Decree, rates are available online at <https://www.epa.gov/superfund/superfund-interest-rates>.

“National Contingency Plan” or “NCP” means the National Oil and Hazardous Substances Pollution Contingency Plan promulgated under section 105 of CERCLA, codified at 40 C.F.R. part 300, and any amendments thereto.

“Paragraph” or “¶” means a portion of this Decree identified by an Arabic numeral or an upper- or lower-case letter.

“Parties” means the United States and Settling Defendant.

“Past Response Costs” means all costs (including direct, indirect, payroll, contractor, travel, and laboratory costs) that the United States paid in connection with OU5 at the Site through June 30, 2023, plus all interest on such costs accrued under section 107(a) of CERCLA through such date.

“Performance Standards” means the cleanup levels and other measures of achievement of the remedial action objectives, as set forth in the Record of Decision.

“Plaintiff” means the United States.

“RCRA” means the Solid Waste Disposal Act, 42 U.S.C. §§ 6901-6992k, (also known as the Resource Conservation and Recovery Act).

“Record of Decision” means the EPA decision document that memorializes the selection of the remedial action relating to the OU5 at the Site signed on September 27, 2023 by the Director of the Superfund Emergency Management Division, EPA Region 2, and all attachments thereto. The Record of Decision is attached as Appendix A.

“Remedial Action” means the remedial action selected in the Record of Decision.

“Remedial Design” means those activities to be undertaken by Settling Defendant to develop plans and specifications for implementing the Remedial Action as set forth in the SOW.

“Scope of the Remedy” means the scope of the remedy set forth in ¶ [1.3] of the SOW.

“Section” means a portion of this Decree identified by a Roman numeral.

“Settling Defendant” means Kyocera AVX Components Corporation.

“Site” means the Olean Well Field Superfund Site, located in the City of Olean and Towns of Olean and Portville, Cattaraugus County, New York, and depicted generally on the map attached as Appendix C.

“Special Account” means the special account, within the Fund, established for the Site by EPA under section 122(b)(3) of CERCLA.

“State” means the State of New York.

“Statement of Work” or “SOW” means the document attached as Appendix B, which describes the activities Settling Defendant must perform to implement and maintain the effectiveness of the Remedial Action.

“Transfer” means to sell, assign, convey, lease, mortgage, or grant a security interest in, or where used as a noun, a sale, assignment, conveyance, or other disposition of any interest by operation of law or otherwise.

“United States” means the United States of America and each department, agency, and instrumentality of the United States, including EPA.

“Waste Material” means (a) any “hazardous substance” under Section 101(14) of CERCLA; (b) any pollutant or contaminant under section 101(33) of CERCLA; and (c) any “solid waste” under section 1004(27) of RCRA.

“Work” means all obligations of Settling Defendant under Sections VI (Performance of the Work) through IX (Indemnification and Insurance).

“Work Takeover” means EPA’s assumption of the performance of any of the Work in accordance with ¶ 21.

V. OBJECTIVES

16. The objectives of the Parties in entering into this Decree are to protect public health, welfare, and the environment through the design, implementation, and maintenance of a response action at the Site by Settling Defendant, to pay response costs of Plaintiff, and to resolve and settle the claims of Plaintiff against Settling Defendant as provided in this Decree.

VI. PERFORMANCE OF THE WORK

17. Settling Defendant shall finance, develop, implement, operate, maintain, and monitor the effectiveness of the Remedial Action all in accordance with the SOW, any modified SOW and all EPA-approved, conditionally approved, or modified deliverables as required by the SOW or modified SOW.

18. Nothing in this Decree and no EPA approval of any deliverable required under this Decree constitutes a warranty or representation by EPA that completion of the Work will achieve the Performance Standards.

19. Modifications to the Remedial Action and Further Response Actions

a. Nothing in this Decree limits EPA's authority to modify the Remedial Action or to select further response actions for the Site in accordance with the requirements of CERCLA and the NCP. Nothing in this Decree limits Settling Defendant's rights, under sections 113(k)(2) or 117 of CERCLA, to comment on any modified or further response actions proposed by EPA.

b. If EPA modifies the Remedial Action in order to achieve or maintain the Performance Standards, or both, or to carry out and maintain the effectiveness of the Remedial Action, and such modification is consistent with the Scope of the Remedy, then Settling Defendant shall implement the modification as provided in ¶ 19.c.

c. Upon receipt of notice from EPA that it has modified the Remedial Action as provided in ¶ 19.b and requesting that Settling Defendant implement the modified Remedial Action, Settling Defendant shall implement the modification, subject to its right to initiate dispute resolution under Section XII within 30 days after receipt of EPA's notice. Settling Defendant shall modify the SOW, or related work plans, or both in accordance with the Remedial Action modification or, if Settling Defendant invokes dispute resolution, in accordance with the final resolution of the dispute. The Remedial Action modification, the approved modified SOW, and any related work plans will be deemed to be incorporated into and enforceable under this Decree.

20. **Compliance with Applicable Law.** Nothing in this Decree affects Settling Defendant's obligations to comply with all applicable federal and state laws and regulations. Settling Defendant must also comply with all applicable or relevant and appropriate requirements of all federal and state environmental laws as set forth in the Record of Decision and the SOW. The activities conducted in accordance with this Decree, if approved by EPA, will be deemed to be consistent with the NCP as provided under section 300.700(c)(3)(ii).

21. **Work Takeover**

a. If EPA determines that Settling Defendant (i) has ceased to perform any of the Work required under this Section; (ii) is seriously or repeatedly deficient or late in performing the Work required under this Section; or (iii) is performing the Work required under this Section in a manner that may cause an endangerment to human health or the environment, EPA may issue a notice of Work Takeover to Settling Defendant, including a description of the grounds for the notice and a period of time (“Remedy Period”) within which Settling Defendant must remedy the circumstances giving rise to the notice. The Remedy Period will be 20 days, unless EPA determines in its unreviewable discretion that there may be an endangerment, in which case the Remedy Period will be 10 days.

b. If, by the end of the Remedy Period, Settling Defendant does not remedy to EPA’s satisfaction the circumstances giving rise to the notice of Work Takeover, EPA may notify Settling Defendant and, as it deems necessary, commence a Work Takeover.

c. EPA may conduct the Work Takeover during the pendency of any dispute under Section XII but shall terminate the Work Takeover if and when: (i) Settling Defendant remedies, to EPA’s satisfaction, the circumstances giving rise to the notice of Work Takeover; or (ii) upon the issuance of a final determination under Section XII (Dispute Resolution) that EPA is required to terminate the Work Takeover.

VII. PROPERTY REQUIREMENTS

22. **Agreements Regarding Access and Noninterference**

a. As used in this Section, “Affected Property” means any real property, including the Site, where EPA determines, at any time, that access; land, water, or other resource use restrictions; Institutional Controls; or any combination thereof, are needed to implement the Remedial Action.

b. Settling Defendant shall use best efforts to secure from the owner(s) of all Affected Property, an agreement, enforceable by Settling Defendant and by Plaintiff, requiring such owner to provide Plaintiff and Settling Defendant, and their respective representatives, contractors, and subcontractors with access at all reasonable times to such owner’s property to conduct any activity regarding the Decree, including the following:

- (1) implementing the Work and overseeing compliance with the Decree;
- (2) conducting investigations of contamination at or near OU5 at the Site;
- (3) assessing the need for, planning, or implementing additional response actions at or near OU5 at the Site;
- (4) determining whether OU5 at the Site is being used in a manner that is prohibited or restricted, or that may need to be prohibited or restricted under the Decree; and

- (5) implementing, monitoring, maintaining, reporting on, and enforcing any land, water, or other resource use restrictions and Institutional Controls.

c. Further, each agreement required under ¶ 22.b must commit the owner to refrain from using its property in any manner that EPA determines will pose an unacceptable risk to human health or to the environment as a result of exposure to Waste Material, or will interfere with or adversely affect the implementation, integrity, or protectiveness of the Remedial Action, including the following:

- (1) engaging in activities that could interfere with the Remedial Action;
- (2) using contaminated groundwater;
- (3) engaging in activities that could result in human exposure to contaminants in soils and groundwater;
- (4) constructing new structures that may interfere with the Remedial Action; and
- (5) constructing new structures without evaluating the potential for soil vapor intrusion and addressing if necessary.

d. As used in this Section, “best efforts” means the efforts that a reasonable person in the position of Settling Defendant would use to achieve the goal in a timely manner, including the cost of employing professional assistance and the payment of reasonable sums of money to secure access and/or use restriction agreements.

e. Settling Defendant shall provide to EPA a copy of each agreement required under ¶ 22.b. If Settling Defendant cannot accomplish what is required through best efforts in a timely manner, it shall notify EPA, and include a description of the steps taken to achieve the requirements. If the United States deems it appropriate, it may assist Settling Defendant, or take independent action, to obtain such access or use restrictions.

23. If EPA determines in a decision document prepared in accordance with the NCP that Institutional Controls in the form of state or local laws, regulations, ordinances, zoning restrictions, or other governmental controls or notices are appropriate, Settling Defendant shall cooperate with EPA’s efforts to secure and ensure compliance with such Institutional Controls.

24. Notwithstanding any provision of the Decree, EPA retains all of its access authorities and rights, as well as all of its rights to require land, water, or other resource use restrictions and Institutional Controls, including related enforcement authorities, under CERCLA, RCRA, and any other applicable statute or regulations.

VIII. FINANCIAL ASSURANCE

25. To ensure completion of the Work required under Section VI, Settling Defendant shall secure financial assurance, initially in the amount of \$2,414,000 (“Estimated Cost of the Work”), for the benefit of EPA. The financial assurance must: (i) be one or more of the

mechanisms listed below, in a form substantially identical to the relevant sample documents available from EPA; and (ii) be satisfactory to EPA. As of the date of lodging of this Decree, the sample documents can be found under the “Financial Assurance - Settlements” category on the Cleanup Enforcement Model Language and Sample Documents Database at <https://cfpub.epa.gov/compliance/models/>. Settling Defendant may use multiple mechanisms if they are limited to surety bonds guaranteeing payment, letters of credit, trust funds, insurance policies, or some combination thereof. The following are acceptable mechanisms:

- a. a surety bond guaranteeing payment, performance of the Work, or both, that is issued by a surety company among those listed as acceptable sureties on federal bonds as set forth in Circular 570 of the U.S. Department of the Treasury;
- b. an irrevocable letter of credit, payable to EPA or at the direction of EPA, that is issued by an entity that has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a federal or state agency;
- c. a trust fund established for the benefit of EPA that is administered by a trustee that has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency;
- d. a policy of insurance that provides EPA with acceptable rights as a beneficiary thereof and that is issued by an insurance carrier that has the authority to issue insurance policies in the applicable jurisdiction(s) and whose insurance operations are regulated and examined by a federal or state agency;
- e. a demonstration by Settling Defendant that it meets the relevant test criteria of ¶ 26; or
- f. a guarantee to fund or perform the Work executed in favor of EPA by a company: (1) that is a direct or indirect parent company of Settling Defendant or has a “substantial business relationship” (as defined in 40 C.F.R. § 264.141(h)) with Settling Defendant; and (2) demonstrates to EPA’s satisfaction that it meets the financial test criteria of ¶ 26.

26. Settling Defendant seeking to provide financial assurance by means of a demonstration or guarantee under ¶ 25.e or 25.f must, within 30 days after the Effective Date:

- a. demonstrate that:
 - (1) the affected Settling Defendant or guarantor has:
 - i. two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

- ii. net working capital and tangible net worth each at least six times the sum of the Estimated Cost of the Work and the amounts, if any, of other federal, state, or tribal environmental obligations financially assured through the use of a financial test or guarantee; and
- iii. tangible net worth of at least \$10 million; and
- iv. assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the Estimated Cost of the Work and the amounts, if any, of other federal, state, or tribal environmental obligations financially assured through the use of a financial test or guarantee; or

(2) the Settling Defendant or guarantor has:

- i. a current rating for its senior unsecured debt of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A or Baa as issued by Moody's; and
- ii. tangible net worth at least six times the sum of the Estimated Cost of the Work and the amounts, if any, of other federal, state, or tribal environmental obligations financially assured through the use of a financial test or guarantee; and
- iii. tangible net worth of at least \$10 million; and
- iv. assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the Estimated Cost of the Work and the amounts, if any, of other federal, state, or tribal environmental obligations financially assured through the use of a financial test or guarantee; and

b. submit to EPA for the Settling Defendant or guarantor: (1) a copy of an independent certified public accountant's report of the entity's financial statements for the latest completed fiscal year, which must not express an adverse opinion or disclaimer of opinion; and (2) a letter from its chief financial officer and a report from an independent certified public accountant substantially identical to the sample letter and reports available from EPA. As of the date of lodging of this Decree, a sample letter and report is available under the "Financial Assurance - Settlements" subject list category on the Cleanup Enforcement Model Language and Sample Documents Database at <https://cfpub.epa.gov/compliance/models/>.

27. Settling Defendant providing financial assurance by means of a demonstration or guarantee under ¶ 25.e or 25.f must also:

a. annually resubmit the documents described in ¶ 26.b within 90 days after the close of the affected Settling Defendant's or guarantor's fiscal year;

b. notify EPA within 30 days after the affected Settling Defendant or guarantor determines that it no longer satisfies the relevant financial test criteria and requirements set forth in this Section; and

c. provide to EPA, within 30 days of EPA's request, reports of the financial condition of the affected Settling Defendant or guarantor in addition to those specified in ¶ 26.b; EPA may make such a request at any time based on a belief that the affected Settling Defendant or guarantor may no longer meet the financial test requirements of this Section.

28. Settling Defendant has selected, and EPA has found satisfactory, a trust fund established for the benefit of EPA in accordance with ¶ 25.c. above, as an initial form of financial assurance. Within 30 days after the Effective Date, Settling Defendant shall secure all executed or otherwise finalized mechanisms or other documents consistent with the EPA-approved form of financial assurance and shall submit such mechanisms and documents to Robert Keating, Chief, EPA Resource Management/Cost Recovery Section, Superfund and Emergency Response Division, U.S. EPA Region 2, 290 Broadway, 18th Floor, New York, NY 10007-1866 (keating.robert@epa.gov). Electronic copies shall be provided to EPA's Project Manager and Site Attorney and to DOJ as specified in Section XVIII.

29. Settling Defendant shall diligently monitor the adequacy of the financial assurance. If Settling Defendant becomes aware of any information indicating that the financial assurance provided under this Section is inadequate or otherwise no longer satisfies the requirements of this Section, Settling Defendant shall notify EPA of such information within seven days. If EPA determines that the financial assurance provided under this Section is inadequate or otherwise no longer satisfies the requirements of this Section, EPA will notify Settling Defendant of such determination. Settling Defendant shall, within 30 days after notifying EPA or receiving notice from EPA under this Paragraph, secure and submit to EPA for approval a proposal for a revised or alternative financial assurance mechanism that satisfies the requirements of this Section. EPA may extend this deadline for such time as is reasonably necessary for Settling Defendant, in the exercise of due diligence, to secure and submit to EPA a proposal for a revised or alternative financial assurance mechanism, not to exceed 60 days. Settling Defendant shall follow the procedures of ¶ 31 in seeking approval of, and submitting documentation for, the revised or alternative financial assurance mechanism. Settling Defendant's inability to secure financial assurance in accordance with this Section does not excuse performance of any other requirement of this Decree.

30. Access to Financial Assurance

a. If EPA issues a notice of a Work Takeover under ¶ 21.b, then, in accordance with any applicable financial assurance mechanism, EPA may require that any funds guaranteed be paid in accordance with ¶ 30.d.

b. If EPA is notified that the issuer of a financial assurance mechanism intends to cancel the mechanism, and Settling Defendant fails to provide an alternative financial assurance mechanism in accordance with this Section at least 30 days prior to the cancellation date, the funds guaranteed under such mechanism must be paid prior to cancellation in accordance with ¶ 30.d.

c. If, upon issuance of a notice of a Work Takeover under ¶ 21.b, either: (1) EPA is unable for any reason to promptly secure the resources guaranteed under any applicable financial assurance mechanism, whether in cash or in kind, to continue and complete the Work; or (2) the financial assurance is a demonstration or guarantee under ¶ 25.e or 25.f, then EPA is entitled to demand an amount, as determined by EPA, sufficient to cover the cost of the remaining Work to be performed. Settling Defendant shall, within 30 days after such demand, pay the amount demanded as directed by EPA.

d. Any amounts required to be paid under this ¶ 30 must be, as directed by EPA: (i) paid to EPA in order to facilitate the completion of the Work by EPA or by another person; or (ii) deposited into an interest-bearing account, established at a duly chartered bank or trust company that is insured by the FDIC, in order to facilitate the completion of the Work by another person. If payment is made to EPA, EPA may deposit the payment into the Fund or into the Special Account to be retained and used to conduct or finance response actions at or in connection with the Site, or to be transferred by EPA to the Fund.

31. Modification of Amount, Form, or Terms of Financial Assurance. Beginning after the first anniversary of the Effective Date, and no more than once per calendar year, Settling Defendant may submit a request to change the form, terms, or amount of the financial assurance mechanism. Any such request must be submitted to EPA in accordance with ¶ 28, and must include an estimate of the cost of the remaining Work, an explanation of the bases for the cost calculation, and a description of the proposed changes, if any, to the form or terms of the financial assurance. EPA will notify Settling Defendant of its decision regarding the request. Settling Defendant may initiate dispute resolution under Section XII regarding EPA's decision within 30 days after receipt of the decision. Settling Defendant may modify the form, terms, or amount of the financial assurance mechanism only: (a) in accordance with EPA's approval; or (b) in accordance with any resolution of a dispute under Section XII. Settling Defendant shall submit to EPA, within 30 days after receipt of EPA's approval or consistent with the terms of the resolution of the dispute, documentation of the change to the form, terms, or amount of the financial assurance instrument.

32. Release, Cancellation, or Discontinuation of Financial Assurance. Settling Defendant may release, cancel, or discontinue any financial assurance provided under this Section only: (a) if EPA issues a Certification of Work Completion under ¶ 5.6 of the SOW; (b) in accordance with EPA's approval of such release, cancellation, or discontinuation; or (c) if there is a dispute regarding the release, cancellation or discontinuance of any financial assurance, in accordance with the agreement, final administrative decision, or final judicial decision resolving such dispute under Section XII.

IX. INDEMNIFICATION AND INSURANCE

33. Indemnification

a. Plaintiff does not assume any liability by entering into this Decree or by virtue of any designation of Settling Defendant as EPA's authorized representative under section 104(e)(1) of CERCLA. Settling Defendant shall indemnify and save and hold harmless Plaintiff and its officials, agents, employees, contractors, subcontractors, and representatives for

or from any claims or causes of action arising from, or on account of, negligent or other wrongful acts or omissions of Settling Defendant, its officers, directors, employees, agents, contractors, subcontractors, and any persons acting on Settling Defendant's behalf or under its control, in carrying out activities under this Decree, including any claims arising from any designation of Settling Defendant as EPA's authorized representative under section 104(e)(1) of CERCLA. Further, Settling Defendant agrees to pay Plaintiff all costs it incurs including attorneys' fees and other expenses of litigation and settlement arising from, or on account of, claims made against Plaintiff based on negligent or other wrongful acts or omissions of Settling Defendant, its officers, directors, employees, agents, contractors, subcontractors, and any persons acting on its behalf or under its control in carrying out activities under with this Decree. Plaintiff may not be held out as a party to any contract entered into by or on behalf of Settling Defendant in carrying out activities under this Decree. Settling Defendant and any such contractor may not be considered an agent of Plaintiff.

b. Plaintiff shall give Settling Defendant notice of any claim for which Plaintiff plans to seek indemnification in accordance with this ¶ 33, and shall consult with Settling Defendant prior to settling such claim.

34. Settling Defendant covenants not to sue and shall not assert any claim or cause of action against Plaintiff for damages or reimbursement or for set-off of any payments made or to be made to Plaintiff, arising from or on account of any contract, agreement, or arrangement between Settling Defendant and any person for performance of Work or other activities on or relating to the Site, including claims on account of construction delays. In addition, Settling Defendant shall indemnify and save and hold Plaintiff harmless with respect to any claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between Settling Defendant and any person for performance of work at or relating to the Site, including claims on account of construction delays.

35. **Insurance.** Settling Defendant shall secure, by no later than 15 days before commencing any on-site Work, the following insurance: (a) commercial general liability insurance with limits of liability of \$1 million per occurrence; (b) automobile liability insurance with limits of liability of \$1 million per accident; and (c) umbrella liability insurance with limits of liability of \$5 million in excess of the required commercial general liability and automobile liability limits. The insurance policy must name Plaintiff as an additional insured with respect to all liability arising out of the activities performed by or on behalf of Settling Defendant under this Decree. Settling Defendant shall maintain this insurance until the first anniversary after the Remedial Action has been performed in accordance with this Decree and the Performance Standards have been achieved. In addition, for the duration of this Decree, Settling Defendant shall satisfy, or shall ensure that its contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing the Work on behalf of Settling Defendant in furtherance of this Decree. Prior to commencement of the Work, Settling Defendant shall provide to EPA certificates of such insurance and a copy of each insurance policy. Settling Defendant shall resubmit such certificates and copies of policies each year on the anniversary of the Effective Date. If Settling Defendant demonstrates by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering the same risks but in a lesser amount, then, with respect to that contractor or subcontractor, Settling Defendant need

provide only that portion of the insurance described above that is not maintained by the contractor or subcontractor. Settling Defendant shall ensure that all submittals to EPA under this Paragraph identify the Olean Well Field Site Operable Unit 5, Olean, New York, and the civil action number of this case.

X. PAYMENTS FOR RESPONSE COSTS

36. Payment for Past Response Costs. Within 30 days after the Effective Date, Settling Defendant shall pay EPA, in reimbursement of Past Response Costs in connection with the Site, \$21,160.05. The Financial Litigation Unit (“FLU”) of the United States Attorney’s Office for the Western District of New York shall provide to Settling Defendant instructions for making this payment, including a Consolidated Debt Collection System (“CDCS”) reference number. Settling Defendant shall make such payment Fedwire Electronic Funds Transfer (“EFT”) in accordance with the FLU’s instructions, including references to the CDCS Number. Settling Defendant shall send notices of this payment to DOJ and EPA. If the payment required under this Paragraph is late, Settling Defendant shall pay, in addition to any stipulated penalties owed under Section XIII, an additional amount for Interest accrued from the Effective Date until the date of payment.

37. Payments by Settling Defendant for Future Response Costs

a. Periodic Bills. On a periodic basis, EPA will send Settling Defendant a bill for Future Response Costs, including a e-Recovery Report or other standard cost summary listing direct and indirect costs paid by EPA, its contractors, subcontractors, and DOJ. Settling Defendant may initiate a dispute under Section XII regarding a Future Response Cost billing, but only if the dispute relates to one or more of the following issues: (i) whether EPA has made an arithmetical error; (ii) whether EPA has included a cost item that is not within the definition of Future Response Costs; or (iii) whether EPA has paid excess costs as a direct result of an EPA action that was inconsistent with a specific provision or provisions of the NCP. Settling Defendant must specify in the Notice of Dispute the contested costs and the basis for the objection.

b. Payment of Bill. Settling Defendant shall pay the bill, or if it initiates dispute resolution, the uncontested portion of the bill, if any, within 30 days after receipt of the bill. Settling Defendant shall pay the contested portion of the bill determined to be owed, if any, within 30 days after the determination regarding the dispute. Each payment for: (i) the uncontested bill or portion of bill, if late, and; (ii) the contested portion of the bill determined to be owed, if any, must include an additional amount for Interest accrued from the date of receipt of the bill through the date of payment. Settling Defendant shall make payment at <https://www.pay.gov> using the “EPA Miscellaneous Payments Cincinnati Finance Center” link, and including references to the Site/Spill ID and DJ numbers listed in ¶ 73 and the purpose of the payment. Settling Defendant shall send notices of this payment to DOJ and EPA.

38. Deposit of Payments. EPA may, in its unreviewable discretion, deposit the amounts paid under ¶¶ 36 and 37.b in the Fund, in the Special Account, or both. EPA may, in its unreviewable discretion, retain and use any amounts deposited in the Special Account to conduct

or finance response actions at or in connection with the Site, or transfer those amounts to the Fund.

XI. FORCE MAJEURE

39. “Force majeure,” for purposes of this Decree, means any event arising from causes beyond the control of Settling Defendant, of any entity controlled by Settling Defendant, or of Settling Defendant’s contractors that delays or prevents the performance of any obligation under this Decree despite Settling Defendant’s best efforts to fulfill the obligation. Given the need to protect public health and welfare and the environment, the requirement that Settling Defendant exercises “best efforts to fulfill the obligation” includes using best efforts to anticipate any potential force majeure and best efforts to address the effects of any potential force majeure (a) as it is occurring and (b) following the potential force majeure such that the delay and any adverse effects of the delay are minimized to the greatest extent possible. “Force majeure” does not include financial inability to complete the Work or a failure to achieve the Performance Standards.

40. If any event occurs for which Settling Defendant will or may claim a force majeure, Settling Defendant shall notify EPA’s Project Coordinator by email. The deadline for the initial notice is within 48 hours after the date Settling Defendant first knew or should have known that the event would likely delay performance. Settling Defendant shall be deemed to know of any circumstance of which any contractor of, subcontractor of, or entity controlled by Settling Defendant knew or should have known. Within 10 days thereafter, Settling Defendant shall send a further notice to EPA that includes: (i) a description of the event and its effect on Settling Defendant’s completion of the requirements of the Decree; (ii) a description of all actions taken or to be taken to prevent or minimize the adverse effects or delay; (iii) the proposed extension of time for Settling Defendant to complete the requirements of the Decree; (iv) a statement as to whether, in the opinion of Settling Defendant, such event may cause or contribute to an endangerment to public health or welfare, or the environment; and (v) all available proof supporting their claim of force majeure. Failure to comply with the notice requirements herein regarding an event precludes Settling Defendant from asserting any claim of force majeure regarding that event, provided, however, that if EPA, despite late or incomplete notice, is able to assess to its satisfaction whether the event is a force majeure under ¶ 39 and whether Settling Defendant has exercised its best efforts under ¶ 39, EPA may, in its unreviewable discretion, excuse in writing Settling Defendant’s failure to submit timely or complete notices under this Paragraph.

41. EPA will notify Settling Defendant of its determination whether Settling Defendant is entitled to relief under ¶ 39, and, if so, the duration of the extension of time for performance of the obligations affected by the force majeure. An extension of the time for performance of the obligations affected by the force majeure shall not, of itself, extend the time for performance of any other obligation. Settling Defendant may initiate dispute resolution under Section XII regarding EPA’s determination within 15 days after receipt of the determination. In any such proceeding, Settling Defendant has the burden of proving that it is entitled to relief under ¶ 39 and that their proposed extension was or will be warranted under the circumstances.

42. The failure by EPA to timely complete any activity under the Decree or the SOW is not a violation of the Decree, provided, however, that if such failure prevents Settling Defendant from timely completing a requirement of the Decree, Settling Defendant may seek relief under this Section.

XII. DISPUTE RESOLUTION

43. Unless otherwise provided in this Decree, Settling Defendant must use the dispute resolution procedures of this Section to resolve any dispute arising under this Decree. Settling Defendant shall not initiate a dispute challenging the Record of Decision. The United States may enforce any requirement of the Decree that is not the subject of a pending dispute under this Section.

44. A dispute will be considered to have arisen when one or more parties sends a written notice of dispute (“Notice of Dispute”). Disputes arising under this Decree must in the first instance be the subject of informal negotiations between the parties to the dispute. The period for informal negotiations may not exceed 20 days after the dispute arises, unless the parties to the dispute otherwise agree. If the parties cannot resolve the dispute by informal negotiations, the position advanced by EPA is binding unless Settling Defendant initiates formal dispute resolution under ¶ 45. By agreement of the parties, mediation may be used during this informal negotiation period to assist the parties in reaching a voluntary resolution or narrowing of the matters in dispute.

45. Formal Dispute Resolution

a. **Statements of Position.** Settling Defendant may initiate formal dispute resolution by serving on the Plaintiff, within 20 days after the conclusion of informal dispute resolution under ¶ 44, an initial Statement of Position regarding the matter in dispute. The Plaintiff’s responsive Statement of Position is due within 20 days after receipt of the initial Statement of Position. All Statements of Position must include supporting factual data, analysis, opinion, and other documentation. A reply, if any, is due within 10 days after receipt of the response. If appropriate, EPA may extend the deadlines for filing statements of position for up to 45 days and may allow the submission of supplemental statements of position.

b. **Formal Decision.** An EPA management official at the Deputy Director of the Superfund & Emergency Management Division, EPA Region 2 level, or, at the sole discretion of EPA, someone occupying a higher position, will issue a formal decision resolving the dispute (“Formal Decision”) based on the statements of position and any replies and supplemental statements of position. The Formal Decision is binding on Settling Defendant unless it timely seeks judicial review under ¶ 46.

c. **Compilation of Administrative Record.** EPA shall compile an administrative record regarding the dispute, which must include all statements of position, replies, supplemental statements of position, and the Formal Decision.

46. **Judicial Review**

a. Settling Defendant may obtain judicial review of the Formal Decision by filing, within 20 days after receiving it, a motion with the Court and serving the motion on all Parties. The motion must describe the matter in dispute and the relief requested. The parties to the dispute shall brief the matter in accordance with local court rules.

b. **Review on the Administrative Record.** Judicial review of disputes regarding the following issues must be on the administrative record: (i) the adequacy or appropriateness of deliverables required under the Decree; (ii) the adequacy of the performance of the Remedial Action; (iii) whether a Work Takeover is warranted under ¶ 21; (iv) determinations about financial assurance under Section VIII; (v) EPA's selection of modified or further response actions; (vi) any other items requiring EPA approval under the Decree; and (vii) any other disputes that the Court determines should be reviewed on the administrative record. For all of these disputes, Settling Defendant bears the burden of demonstrating that the Formal Decision was arbitrary and capricious or otherwise not in accordance with law.

c. Judicial review of any dispute not governed by ¶ 46.b shall be governed by applicable principles of law.

47. **Escrow Account.** For disputes regarding a Future Response Cost billing, Settling Defendant shall: (a) establish, in a duly chartered bank or trust company, an interest-bearing escrow account that is insured by the Federal Deposit Insurance Corporation ("FDIC"); (b) remit to that escrow account funds equal to the amount of the contested Future Response Costs; and (c) send to EPA copies of the correspondence and of the payment documentation (e.g., the check) that established and funded the escrow account, including the name of the bank, the bank account number, and a bank statement showing the initial balance in the account. EPA may, in its unreviewable discretion, waive the requirement to establish the escrow account. Settling Defendant shall cause the escrow agent to pay the amounts due to EPA under ¶ 37, if any, by the deadline for such payment in ¶ 37. Settling Defendant is responsible for any balance due under ¶ 37 after the payment by the escrow agent.

48. The initiation of dispute resolution procedures under this Section does not extend, postpone, or affect in any way any requirement of this Decree, except as EPA agrees, or as determined by the Court. Stipulated penalties with respect to the disputed matter will continue to accrue, but payment is stayed pending resolution of the dispute, as provided in ¶ 51.

XIII. STIPULATED PENALTIES

49. Unless the noncompliance is excused under Section XI (Force Majeure), Settling Defendant is liable to the United States for the following stipulated penalties:

a. for any failure: (i) to pay any amount due under Section X; (ii) to establish and maintain financial assurance in accordance with Section VIII; (iii) to submit timely or adequate deliverables under Section [8] of the SOW:

Period of Noncompliance	Penalty Per Noncompliance Per Day
1st through 14th day	\$1,000
15th through 30th day	\$3,000
31st day and beyond	\$5,000

b. for any failure to submit timely or adequate deliverables required by this Decree other than those specified in ¶ 49.a:

Period of Noncompliance	Penalty Per Noncompliance Per Day
1st through 14th day	\$500
15th through 30th day	\$750
31st day and beyond	\$2,000

50. **Work Takeover Penalty.** If EPA commences a Work Takeover, Settling Defendant is liable for a stipulated penalty in the amount of \$500,000. This stipulated penalty is in addition to the remedy available to EPA under ¶ 30 (Access to Financial Assurance) to fund the performance of the Work by EPA.

51. **Accrual of Penalties.** Stipulated penalties accrue from the date performance is due, or the day a noncompliance occurs, whichever is applicable, until the date the requirement is completed or the final day of the correction of the noncompliance. Nothing in this Decree prevents the simultaneous accrual of separate penalties for separate noncompliances with this Decree. Stipulated penalties accrue regardless of whether Settling Defendant has been notified of its noncompliance, and regardless of whether Settling Defendant has initiated dispute resolution under Section XII, provided, however, that no penalties will accrue as follows:

a. with respect to a submission that EPA subsequently determines is deficient under ¶ [7.6] of the SOW, during the period, if any, beginning on the 31st day after EPA's receipt of such submission until the date that EPA notifies Settling Defendant of any deficiency;

b. with respect to a matter that is the subject of dispute resolution under Section XII, during the period, if any, beginning on the 21st day after the later of the date that EPA's Statement of Position is received or the date that Settling Defendant's reply thereto (if any) is received until the date of the Formal Decision under ¶ 45.b; or

c. with respect to a matter that is the subject of judicial review by the Court under ¶ 46, during the period, if any, beginning on the 31st day after the Court's receipt of the final submission regarding the dispute until the date that the Court issues a final decision regarding such dispute.

52. **Demand and Payment of Stipulated Penalties.** EPA may send Settling Defendant a demand for stipulated penalties. The demand will include a description of the noncompliance and will specify the amount of the stipulated penalties owed. Settling Defendant may initiate dispute resolution under Section XII within 30 days after receipt of the demand. Settling Defendant shall pay the amount demanded or, if it initiates dispute resolution, the uncontested portion of the amount demanded, within 30 days after receipt of the demand. Settling Defendant shall pay the contested portion of the penalties determined to be owed, if any,

within 30 days after the resolution of the dispute. Each payment for: (a) the uncontested penalty demand or uncontested portion, if late; and (b) the contested portion of the penalty demand determined to be owed, if any, must include an additional amount for Interest accrued from the date of receipt of the demand through the date of payment. Settling Defendant shall make payment at <https://www.pay.gov> using the link for “EPA Miscellaneous Payments Cincinnati Finance Center,” including references to the Site/Spill ID and DJ numbers listed in ¶ 73, and the purpose of the payment. Settling Defendant shall send a notice of this payment to DOJ and EPA. The payment of stipulated penalties and Interest, if any, does not alter any obligation by Settling Defendant under the Decree.

53. Nothing in this Decree limits the authority of the United States: (a) to seek any remedy otherwise provided by law for Settling Defendant’s failure to pay stipulated penalties or interest; or (b) to seek any other remedies or sanctions available by virtue of Settling Defendant’s noncompliances with this Decree or of the statutes and regulations upon which it is based, including penalties under section 122(l) of CERCLA, provided, however, that the United States may not seek civil penalties under section 122(l) of CERCLA for any noncompliance for which a stipulated penalty is provided for in this Decree, except in the case of a willful noncompliance with this Decree.

54. Notwithstanding any other provision of this Section, the United States may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued under this Decree.

XIV. COVENANTS BY PLAINTIFF

55. **Covenants for Settling Defendant.** Subject to ¶ 57, the United States covenants not to sue or to take administrative action against Settling Defendant under sections 106 and 107(a) of CERCLA regarding the Work, Past Response Costs, and Future Response Costs.

56. The covenants under ¶ 55: (a) take effect upon the Effective Date; (b) are conditioned, respectively, on the satisfactory performance by Settling Defendant of the requirements of this Decree; (c) extend to the successors of Settling Defendant but only to the extent that the alleged liability of the successor of Settling Defendant is based solely on its status as a successor of Settling Defendant; and (d) do not extend to any other person.

57. **General Reservations.** Notwithstanding any other provision of this Decree, the United States reserves, and this Decree is without prejudice to, all rights against Settling Defendant, regarding the following:

- a. liability for failure by Settling Defendant to meet a requirement of this Decree;
- b. liability arising from the past, present, or future disposal, release, or threat of release of Waste Material outside of the Site;
- c. liability based on Settling Defendant’s ownership of the Site when such ownership commences after Settling Defendant’s signature of this Decree;

d. liability based on Settling Defendant's operation of the Site when such operation commences after Settling Defendant's signature of this Decree and does not arise solely from Settling Defendant's performance of the Work;

e. liability based on Settling Defendant's transportation, treatment, storage, or disposal, or arrangement for transportation, treatment, storage, or disposal of Waste Material at or in connection with the Site, after signature of this Decree by Settling Defendant, other than as provided in the Record of Decision, under this Decree, or ordered by EPA;

f. liability for additional operable units at the Site or the final response action;

g. liability, prior to achievement of Performance Standards, for additional response actions that EPA determines are necessary to achieve and maintain Performance Standards or to carry out and maintain the effectiveness of the Remedial Action, but that are not covered by ¶ 19.b; and

h. criminal liability.

58. Subject to ¶ 55, nothing in this Decree limits any authority of Plaintiff to take, direct, or order all appropriate action to protect human health and the environment or to prevent, abate, respond to, or minimize an actual or threatened release of Waste Material on, at, or from the Site, or to request a Court to order such action.

XV. COVENANTS BY SETTLING DEFENDANT

59. Covenants by Settling Defendant

a. Subject to ¶ 60, Settling Defendant covenants not to sue and shall not assert any claim or cause of action against the United States under CERCLA, section 7002(a) of RCRA, the United States Constitution, the Tucker Act, 28 U.S.C. § 1491, the Equal Access to Justice Act, 28 U.S.C. § 2412, the State Constitution, State law, or at common law regarding the Work, past response actions relating to the Site, Past Response Costs, and Future Response Costs.

b. Subject to ¶ 60, Settling Defendant covenants not to seek reimbursement from the Fund through CERCLA or any other law for costs of the Work and past response actions regarding the Site, Past Response Costs, and Future Response Costs.

60. **Settling Defendant's Reservation.** The covenants in ¶ 59 do not apply to any claim or cause of action brought, or order issued, after the Effective Date by the United States to the extent such claim, cause of action, or order is within the scope of a reservation under ¶¶ 57.a through 57.g.

61. **De Minimis/Ability to Pay Waiver.** Settling Defendant shall not assert any claims and waive all claims or causes of action (including claims or causes of action under sections 107(a) and 113 of CERCLA) that they may have against any third party who enters or has entered into a *de minimis* or "ability-to-pay" settlement with EPA to the extent Settling

Defendant's claims and causes of action are within the scope of the matters addressed in the third party's settlement with EPA, provided, however, that this waiver does not apply if the third party asserts a claim or cause of action regarding the Site against the Settling Defendant. Nothing in the Decree limits Settling Defendant's rights under section 122(d)(2) of CERCLA to comment on any *de minimis* or ability-to-pay settlement proposed by EPA.

XVI. EFFECT OF SETTLEMENT; CONTRIBUTION

62. The Parties agree and the Court finds that: (a) the complaint filed by the United States in this action is a civil action within the meaning of section 113(f)(1) of CERCLA; (b) this Decree constitutes a judicially approved settlement under which Settling Defendant has, as of the Effective Date, resolved its liability to the United States within the meaning of sections 113(f)(2) and 113(f)(3)(B) of CERCLA; and (c) Settling Defendant is entitled, as of the Effective Date, to protection from contribution actions or claims as provided by section 113(f)(2) of CERCLA, or as may be otherwise provided by law, for the "matters addressed" in this Decree. The "matters addressed" in this Decree are the Work, Past Response Costs, and Future Response Costs, provided, however, that if the United States exercises rights under the reservations in ¶¶ 57.a through 57.g, the "matters addressed" in this Decree will no longer include those response costs or response actions that are within the scope of the exercised reservation.

63. Settling Defendant shall, with respect to any suit or claim brought by it for matters related to this Decree, notify DOJ and EPA no later than 60 days prior to the initiation of such suit or claim. Settling Defendant shall, with respect to any suit or claim brought against it for matters related to this Decree, notify DOJ and EPA within 10 days after service of the complaint on Settling Defendant. In addition, Settling Defendant shall notify DOJ and EPA within 10 days after service or receipt of any Motion for Summary Judgment and within 10 days after receipt of any order from a court setting a case for trial.

64. **Res Judicata and Other Defenses.** In any subsequent administrative or judicial proceeding initiated against Settling Defendant by Plaintiff for injunctive relief, recovery of response costs, or other appropriate relief relating to the Site, Settling Defendant shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, claim preclusion (*res judicata*), issue preclusion (*collateral estoppel*), claim-splitting, or other defenses based upon any contention that the claims raised by the United States in the subsequent proceeding were or should have been brought in the instant case.

65. Nothing in this Decree diminishes the right of the United States under section 113(f)(2) and (3) of CERCLA to pursue any person not a party to this Decree to obtain additional response costs or response action and to enter into settlements that give rise to contribution protection pursuant to section 113(f)(2).

XVII. RECORDS

66. **Settling Defendant Certification.** Settling Defendant certifies that: (a) it has implemented a litigation hold on documents and electronically stored information relating to the Site, including information relating to its potential liability under CERCLA regarding the Site, since the earlier of notification of potential liability by the United States or the State or the filing

of suit against it regarding the Site; and (b) it has fully complied with any and all EPA requests for information under sections 104(e) and 122(e) of CERCLA, and section 3007 of RCRA.

67. Retention of Records and Information

a. Settling Defendant shall retain, and instruct its contractors and agents to retain, the following documents and electronically stored data (“Records”) until 10 years after the Certification Completion of the Work under SOW ¶ 5.6 (the “Record Retention Period”):

- (1) All records regarding Settling Defendant’s liability under CERCLA regarding the Site;
- (2) All reports, plans, permits, and documents submitted to EPA in accordance with this Decree, including all underlying research and data; and
- (3) All data developed by, or on behalf of, Settling Defendant in the course of performing the Remedial Action.

b. At the end of the Record Retention Period, Settling Defendant shall notify EPA that it has 90 days to request the Settling Defendant’s Records subject to this Section. Settling Defendant shall retain and preserve its Records subject to this Section until 90 days after EPA’s receipt of the notice. These record retention requirements apply regardless of any corporate record retention policy.

68. Settling Defendant shall provide to EPA, upon request, copies of all Records and information required to be retained under this Section. Settling Defendant shall also make available to EPA, for purposes of investigation, information gathering, or testimony, its employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

69. Privileged and Protected Claims

a. Settling Defendant may assert that all or part of a record requested by Plaintiff is privileged or protected as provided under federal law, in lieu of providing the record, provided that Settling Defendant complies with ¶ 69.b, and except as provided in ¶ 69.c.

b. If Settling Defendant asserts a claim of privilege or protection, it shall provide Plaintiff with the following information regarding such record: its title; its date; the name, title, affiliation (e.g., company or firm), and address of the author, of each addressee, and of each recipient; a description of the record’s contents; and the privilege or protection asserted. If a claim of privilege or protection applies only to a portion of a record, Settling Defendant shall provide the record to Plaintiff in redacted form to mask the privileged or protected portion only. Settling Defendant shall retain all records that they claim to be privileged or protected until Plaintiff has had a reasonable opportunity to dispute the privilege or protection claim and any such dispute has been resolved in Settling Defendant’s favor.

c. Settling Defendant shall not make any claim of privilege or protection regarding: (1) any data regarding the Site, including all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, radiological or engineering data, or the portion of any other record that evidences conditions at or around the Site; or (2) the portion of any record that Settling Defendant is required to create or generate in accordance with this Decree.

70. **Confidential Business Information (CBI) Claims.** Settling Defendant may claim that all or part of a record provided to Plaintiff under this Section is CBI to the extent permitted by and in accordance with section 104(e)(7) of CERCLA and 40 C.F.R. § 2.203(b). Settling Defendant shall segregate and shall clearly identify all records or parts thereof submitted under this Decree for which they claim is CBI by labeling each page or each electronic file “claimed as confidential business information” or “claimed as CBI.” Records that Settling Defendant claims to be CBI will be afforded the protection specified in 40 C.F.R. part 2, subpart B. If no CBI claim accompanies records when they are submitted to EPA, or if EPA notifies Settling Defendant that the records are not entitled to confidential treatment under the standards of section 104(e)(7) of CERCLA or 40 C.F.R. part 2, subpart B, the public may be given access to such records without further notice to Settling Defendant.

71. In any proceeding under this Decree, validated sampling or monitoring data generated in accordance with the SOW and reviewed and approved by EPA, if relevant to the proceeding, is admissible as evidence, without objection.

72. Notwithstanding any provision of this Decree, Plaintiff retains all of its information gathering and inspection authorities and rights, including enforcement actions related thereto, under CERCLA, RCRA, and any other applicable statutes or regulations.

XVIII. NOTICES AND SUBMISSIONS

73. All agreements, approvals, consents, deliverables, modifications, notices, notifications, objections, proposals, reports, waivers, and requests specified in this Decree must be in writing unless otherwise specified. Whenever a notice is required to be given or a report or other document is required to be sent by one Party to another under this Decree, it must be sent as specified below. All notices under this Section are effective upon receipt, unless otherwise specified. In the case of emailed notices, there is a rebuttable presumption that such notices are received on the same day that they are sent. Any Party may change the method, person, or address applicable to it by providing notice of such change to all Parties.

As to DOJ: *via email to:*
eescdcopy.enrd@usdoj.gov
Re: DJ # 90-11-3-181/2

As to EPA: *via email to:*

Maeve Wurtz, Project Manager
wurtz.maeve@epa.gov

and

Sharon Kivowitz, Site Attorney
kivowitz.sharon@epa.gov

Re: Site/Spill ID # 0216

As to the Regional Financial Management Officer: *via email to:*
cinwd_acctsreceivable@epa.gov

Re: Site/Spill ID # 0216

and

Robert Keating, Chief, EPA Resource Management/Cost Recovery Section
keating.robert@epa.gov

As to New York State *via email to:*

Steven Moeller
steven.moeller@dec.ny.gov

As to Settling Defendant: *via email to:*
Jim Zemak
jim.zemak@kyocera-avx.com

Steven Weber
steveweber@parkerpoe.com

Mark Hanish
mark.hanish@arcadis.com

XIX. APPENDIXES

74. The following appendixes are attached to and incorporated into this Decree:

“Appendix A” is the Record of Decision.

“Appendix B” is the SOW.

“Appendix C” is the map of the Site.

XX. MODIFICATIONS TO DECREE

75. Except as provided in ¶ 19 of the Decree and ¶ 7.6 of the SOW (Approval of Deliverables), nonmaterial modifications to Sections I through XXIV and the Appendixes must be in writing and are effective when signed (including electronically signed) by the Parties. Material modifications to Sections I through XXIV and the Appendixes must be in writing, signed (which may include electronically signed) by the Parties, and are effective upon approval by the Court. As to changes to the remedy, a modification to the Decree, including the SOW, to implement an amendment to the Record of Decision that “fundamentally alters the basic features” of the Remedial Action within the meaning of 40 C.F.R. § 300.435(c)(2)(ii) will be considered a material modification.

XXI. SIGNATORIES

76. The undersigned representative of the United States and the undersigned representative of Settling Defendant each certify that he or she is fully authorized to enter into the terms and conditions of this Decree and to execute and legally bind such Party to this document.

XXII. PRE-ENTRY PROVISIONS

77. If for any reason the Court should decline to approve this Decree in the form presented, this agreement, except for ¶ 78 and ¶ 79, is voidable at the sole discretion of any Party and its terms may not be used as evidence in any litigation between the Parties.

78. This Decree will be lodged with the Court for at least 30 days for public notice and comment in accordance with section 122(d)(2) of CERCLA and 28 C.F.R. § 50.7. The United States may withdraw or withhold its consent if the comments regarding the Decree disclose facts or considerations that indicate that the Decree is inappropriate, improper, or inadequate.

79. Settling Defendant agrees not oppose or appeal the entry of this Decree.

XXIII. INTEGRATION

80. This Decree constitutes the entire agreement among the Parties regarding the subject matter of the Decree and supersedes all prior representations, agreements, and understandings, whether oral or written, regarding the subject matter of the Decree.

XXIV. FINAL JUDGMENT

81. Upon entry of this Decree by the Court, this Decree constitutes a final judgment under Fed. R. Civ. P. 54 and 58 between the Parties.

SO ORDERED this ____ day of _____, 20__.


United States District Judge

Signature Page for Consent Decree in *U.S. v. Kyocera AVX Components Corp.* (WDNY)

FOR THE UNITED STATES:

Todd Kim
Assistant Attorney General
U.S. Department of Justice
Environment and Natural Resources Division

**MARK
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**FOR THE U.S. ENVIRONMENTAL
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FOR:

13 March 2024

Dated _____

DocuSigned by:



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Name: Karen Smith
Title: Senior Vice President, Administration
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29644

If the Decree is not approved by the Court within 60 days after the date of lodging, and the United States requests, Settling Defendant agrees to accept service of the complaint by mail, and to execute a waiver of service of a summons under Rule 4 of the Federal Rules of Civil Procedure and any applicable local rules of this Court. **Settling Defendant hereby designates the agent below to accept service of the complaint by mail and to execute the Rule 4 waiver of service.** Settling Defendant understands that it does not need to file an answer to the complaint until it has executed the waiver of service or otherwise has been served with the complaint.

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U.S. v. Kyocera AVX Components Corporation (W.D.N.Y.)

Consent Decree Regarding Olean Wellfield Superfund Site

Appendix A

Record of Decision

RECORD OF DECISION

Operable Unit Five
Olean Well Field Superfund Site
City of Olean, Cattaraugus County, New York



United States Environmental Protection Agency
Region 2
New York, New York
September 2023



692957

DECLARATION

SITE NAME AND LOCATION

Olean Well Field Superfund Site
City of Olean, Cattaraugus County, New York

Superfund Site Identification Number: NYD980528657
Operable Unit: 05

STATEMENT OF BASIS AND PURPOSE

This Record of Decision (ROD) documents the U.S. Environmental Protection Agency's (EPA's) selection of a remedy for Operable Unit 5 (OU5) at the Olean Well Field Superfund site (Site), in Cattaraugus County, New York. This remedy is being chosen in accordance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. Sections 9601-9675, and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300. This decision document explains the factual and legal basis for selecting the OU5 remedy for the Site. The attached index (see Appendix III) identifies the items that comprise the Administrative Record upon which the selected remedy is based.

The New York State Department of Environmental Conservation (NYSDEC) was consulted on the proposed remedy in accordance with CERCLA Section 121(f), 42 U.S.C. Section 9621(f), and it concurs with the selected remedy (see Appendix IV).

ASSESSMENT OF THE SITE

Actual or threatened releases of hazardous substances from the Site, if not addressed by implementing the response actions selected in this OU5 ROD, may present an imminent and substantial endangerment to public health, welfare, or the environment.

DESCRIPTION OF THE SELECTED REMEDY

The response action in this OU5 ROD actively addresses soil contamination at a discrete area of the property located at 1695 Seneca Avenue, Olean, New York (AVX Property). This discrete area has been designated by EPA as OU5. OU5 includes contaminated soil that is located beneath and near the footprint of a former manufacturing building located in the northern portion of the Historical Source Area¹ at the AVX Property. In prior EPA decision documents AVX is sometimes referred to as AVX Corporation (AVX)².

¹ A September 1996 ROD for Operable Unit 2 (OU2 ROD) addressed the four known sources of the contamination in the groundwater, including the AVX Property. A September 2015 amendment to the OU2 ROD (OU2 AVX ROD Amendment) that modified the AVX component of this remedy, defined the Historical Source Area as generally consisting of soil and groundwater contamination in a shallow groundwater unit known as the Downgradient Till Unit beneath the former AVX manufacturing building and the land at the southeast corner of the building immediately proximate thereto, including the shallow north-south trending drainage swale that begins to the south of the building. The OU2 AVX ROD Amendment provides further details regarding geologic and hydrogeologic conditions at the Site.

² In 2020, AVX Corporation became a wholly owned subsidiary of Kyocera Corporation. In 2021, AVX's name changed to Kyocera AVX Components Corporation or KAVX. The owner of record of the property is still listed as AVX.

The OU2 AVX ROD Amendment selected an interim remedy to address soil and groundwater at the AVX Property. An interim remedy was selected because a final remedy, requiring restoration of the City Aquifer, would not be possible until the soil under the active AVX manufacturing building became accessible and additional soil characterization and testing could be conducted. The OU2 AVX ROD Amendment specified that in the event there was a change in use of the manufacturing building, a feasibility study would need to be performed to evaluate whether further action in the form of source control and/or restoration actions was necessary to achieve the OU2 ROD goal of aquifer restoration. Therefore, a feasibility study to determine a final remedy could not be completed until the AVX property was no longer operating as an active manufacturing facility. In April 2018, AVX ceased operations at the facility and in 2020 the building was demolished. This allowed for additional characterization and the performance of a feasibility study for contaminated soil located beneath and near the footprint of the former manufacturing building. EPA has designated this portion of the Historical Source Area as OU5 at the Site.

The major components of the interim remedy selected by the OU2 AVX ROD Amendment included: maintenance of existing exposure barriers (the building and paved areas) in the northern portion of the Historical Source Area and the vegetative cover in the drainage swale area (to address soil contamination); construction and operation of a hydraulic trench containment system to address groundwater in the Downgradient Till Unit; hydraulic pumping to contain groundwater in the City Aquifer; implementation of institutional controls; implementation of a long-term groundwater monitoring program; and development of a Site Management Plan (SMP) to provide for the proper management of the interim remedy post-construction. Refer to the OU2 AVX ROD Amendment for a detailed description of the interim remedy.

The major components of the selected remedy for OU5 of the Site include the following:

- Demolition and removal of the existing concrete slab floor and foundation supports;
- Excavation of contaminated unsaturated soil located beneath and near the footprint of the former manufacturing building in the northern portion of the Historical Source Area;
- Off-Site transportation and disposal of excavated material; and
- Restoration with imported clean fill material.

As part of the remedial design, further evaluations will be conducted to define the depth of the water table and resulting excavation. If determined practicable, additional limited active remediation will be performed below the water table to address saturated soil in an effort to improve remediation timeframes for groundwater. During the remedial design, additional soil sampling will also be conducted to further evaluate the extent of contamination, including 1,4-dioxane.

The selected OU5 remedy to address contaminated soil located beneath and near the footprint of the former manufacturing building, in conjunction with the OU2 AVX ROD Amendment, constitutes the final remedy for the AVX Property.

The institutional controls to restrict use of the property to industrial uses, as selected in the OU2 AVX ROD Amendment, continue to apply to the AVX Property and as such apply to this selected remedy as well.

The environmental benefits of the selected remedy may be enhanced by employing design technologies and practices that are sustainable in accordance with EPA Region 2's Clean and Green Energy Policy.³ During the remedial design, green remediation concepts, including the use of low-sulfur vehicles and the proximity to the landfill that receives the excavated soil in an effort to reduce the impacts associated with truck trips, will be considered.

DECLARATION OF STATUTORY DETERMINATIONS

The selected remedy satisfies the statutory requirements for remedial actions set forth in Section 121 of CERCLA, 42 U.S.C. § 9621, as follows: 1) it is protective of human health and the environment; 2) it meets a level or standard of control of the hazardous substances, pollutants, and contaminants that at least attains the legally applicable or relevant and appropriate requirements under federal and state laws unless a statutory waiver is justified; 3) it is cost-effective; and 4) it utilizes permanent solutions and alternative treatment or resource recovery technologies to the maximum extent practicable. In addition, Section 121 of CERCLA, 42 U.S.C. § 9621, includes a preference for remedies that employ treatment that permanently and significantly reduces the volume, toxicity, or mobility of hazardous substances as a principal element. Although it is not currently anticipated, if necessary, in order to meet the requirements of the disposal facilities, contaminated material will be treated prior to land disposal; only under such circumstances would the selected remedy partially satisfy the preference for treatment.

The OU5 selected remedy, in combination with the OU2 AVX ROD Amendment, will result in hazardous substances, pollutants, or contaminants remaining in and around the drainage swale area at the AVX Property above levels that would otherwise allow for unlimited use and unrestricted exposure. As a result, in accordance with Section 121(c) of CERCLA, statutory reviews will be conducted no less often than once every five years to ensure that the remedy remains protective of human health and the environment.

ROD DATA CERTIFICATION CHECKLIST

The following information is included in the Decision Summary section of this OU5 ROD. Additional information can be found in the Administrative Record for this Site.

- A discussion of the current nature and extent of soil and groundwater contamination is included in Section 5;
- Chemicals of concern and their respective concentrations may be found in Section 7 "Summary of Site Risks" and Table 1 in Appendix II;
- Potential adverse effects associated with exposure to Site contaminants may be found in Section 7, "Summary of Site Risks;"

³ <http://www.epa.gov/greenercleanups/epa-region-2-clean-and-green-policy> and also http://www.dec.ny.gov/docs/remediation_hudson_pdf/der31.pdf.

- A discussion of cleanup levels for chemicals of concern may be found in Section 8 "Remedial Action Objectives" and in Table 9 in Appendix II;
- Current and reasonably-anticipated future land use assumptions are discussed in Section 6 "Current and Potential Future Land and Resource Uses;"
- Estimated capital, annual operation and maintenance, and total present-worth costs are discussed in Section 9 "Summary of Remedial Alternatives;" and
- Key Factors in the detailed analyses of remedial alternatives (*e.g.*, how the selected remedy provides the best balance of tradeoffs with respect to the balancing and modifying criteria) may be found in Section 10 "Comparative Analysis of Alternatives" and Section 13 "Statutory Determinations."

AUTHORIZING SIGNATURE

Pat
Evangelista

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September 27, 2023

Pat Evangelista, Director
Superfund & Emergency Management Division

Date

Table of Contents

1.	SITE NAME, LOCATION, AND DESCRIPTION	1
2.	SITE HISTORY AND ENFORCEMENT ACTIVITIES.....	1
3.	COMMUNITY PARTICIPATION	3
4.	SCOPE AND ROLE OF RESPONSE ACTION	3
5.	SUMMARY OF SITE CHARACTERISTICS.....	5
5.1.	Site Geology/Hydrogeology	5
5.2.	OU5 Investigation Summary.....	6
6.	CURRENT AND POTENTIAL FUTURE LAND AND RESOURCE USES.....	9
6.1.	Land Use.....	9
6.2.	Groundwater Use	10
7.	SUMMARY OF SITE RISKS.....	10
7.1.	Human Health Risk Assessment	11
7.1.1.	Hazard Identification	11
7.1.2.	Exposure Assessment	12
7.1.3.	Toxicity Assessment	12
7.1.4.	Risk Characterization.....	13
7.1.5.	Uncertainties	15
7.2.	Ecological Risk Assessment	15
7.3.	Basis for Taking Action.....	16
8.	REMEDIAL ACTION OBJECTIVES	16
9.	DESCRIPTION OF REMEDIAL ALTERNATIVES.....	16
9.1.	Description of Common Elements Among Remedial Alternatives	17
9.2.	Description of Remedial Alternatives.....	17
10.	COMPARATIVE ANALYSIS OF ALTERNATIVES.....	20
10.1.	Overall Protection of Human Health and the Environment.....	21
10.2.	Compliance with ARARs.....	22
10.3.	Long-Term Effectiveness and Permanence.....	22
10.4.	Reduction of Toxicity, Mobility or Volume	23
10.5.	Short-Term Effectiveness.....	23
10.6.	Implementability	24

10.7.	Cost.....	24
10.8.	State/Support Agency Acceptance	24
10.9.	Community Acceptance	24
11.	PRINCIPAL THREAT WASTES	25
12.	THE SELECTED REMEDY	25
12.1.	Summary of the Rationale for the Selected Remedy	25
12.2.	Description of the Selected Remedy	26
12.3.	Summary of Estimated Remedy Costs.....	27
12.4.	Expected Outcomes of the Selected Remedy.....	27
13.	STATUTORY DETERMINATIONS	27
13.1.	Protection of Human Health and the Environment	27
13.2.	Compliance with ARARs.....	27
13.3.	Cost Effectiveness	28
13.4.	Utilization of Permanent Solutions and Alternative Treatment (or Resource Recovery) Technologies to Maximum Extent Practicable.....	28
13.5.	Preference for Treatment as a Principal Element.....	28
13.6.	Five-Year Review Requirements	28
14.	DOCUMENTATION OF SIGNIFICANT CHANGES	29

APPENDICES

LIST OF APPENDICES

APPENDIX I

FIGURES

Figure 1 Site Location and Operable Unit Map
Figure 2 Alternative 3 Excavation Area

APPENDIX II

TABLES

Table 1 Summary of Chemicals of Concern & Medium-Specific Exposure Point Concentrations
Table 2 Selection of Exposure Pathways
Table 3 Noncancer Toxicity Data Summary
Table 4 Cancer Toxicity Data Summary
Table 5 Risk Characterization Summary – Carcinogens and Noncarcinogens
Table 6 Chemical-Specific ARARs, TBCs, and Other Guidelines
Table 7 Location-Specific ARARs, TBCs, and Other Guidelines
Table 8 Action-Specific ARARs, TBCs, and Other Guidelines
Table 9 Cleanup levels for Chemicals of Concern
Table 10 Cost Estimate Summary for the Selected Remedy

APPENDIX III

ADMINISTRATIVE RECORD INDEX

APPENDIX IV

NEW YORK STATE CONCURRENCE LETTER

APPENDIX V

RESPONSIVENESS SUMMARY

Attachment 1 Proposed Plan
Attachment 2 Public Notice – Commencement of Public Comment Period
Attachment 3 August 8, 2023 Public Meeting Transcript
Attachment 4 Written Comments Submitted During Public Comment Period

DECISION SUMMARY

1. SITE NAME, LOCATION, AND DESCRIPTION

The Olean Well Field Superfund site (Site) is located in the eastern portion of the City of Olean and western and northwestern portions of the towns of Olean and Portville in Cattaraugus County, New York. The Site is characterized by volatile organic compound (VOC)-contaminated groundwater underlying the City of Olean, the Town of Olean, and the Town of Portville, and by VOC-contaminated soil at certain locations in the City and Town of Olean. The Site is approximately 65 miles southeast of Buffalo, New York, and seven miles north of the New York/Pennsylvania border. The Allegheny River, a principal tributary of the Ohio River, and two of its tributaries, the Olean and Haskell Creeks, flow west-northwest through the southern portion of the Site. A Site location map is provided as Figure 1 in Appendix I.

EPA has divided the Site into separate phases, or operable units, for remediation purposes. Operable Unit 1 (OU1) addresses the drinking water supply for the City and Town of Olean. OU2 addresses the sources of VOC contamination to groundwater. Investigations conducted to date identified four source areas of VOC contamination to groundwater at the Site: Alcas Cutlery Corporation (Alcas) (currently owned and operated by Cutco Corporation and located at 1116 East State Street, Olean, New York); Loohn's Dry Cleaners and Launderers (Loohn's) (currently a vacant lot located at 1713 East State Street, Olean, New York); McGraw-Edison Company (McGraw) (currently owned and operated by Eaton-Cooper Power Systems, Inc. and located at 1648 Dugan Road, Olean, New York); and AVX Corporation (AVX) (located at 1695 Seneca Avenue, Olean, New York; AVX Corporation is currently named Kyocera AVX Components Corporation (KAVX)). OU3 addresses groundwater contamination at an area south of the Alcas facility referred to as Parcel B. OU4 addresses VOC contamination in groundwater located at certain residential and commercial properties downgradient of the AVX Property and south of the Conrail railroad tracks. The AVX Property includes 18.5 acres of real property, which is still listed as being owned by the AVX Corporation.

This Record of Decision (ROD) for OU5 (OU5 ROD) addresses contaminated soil that is located beneath and near the footprint of a former manufacturing building located in the northern portion of the Historical Source Area at the AVX Property.

2. SITE HISTORY AND ENFORCEMENT ACTIVITIES

Site History

Beginning in the 1980s, several separate federal-, state- and Potentially Responsible Party (PRP)-led investigations were conducted to identify the sources of contamination to the municipal water supply wells and evaluate the nature and extent of groundwater contamination at the Site. The Site was included on the National Interim Priorities List, by publication in the Federal Register on October 23, 1981, and was included on the first National Priorities List on September 9, 1983. For more details regarding the results of the various investigations and subsequent actions taken to address Site-related contamination refer to the OU2 ROD, the OU2 AVX ROD Amendment and the OU4 ROD.

The following provides a summary of activities at the AVX Property, a source of groundwater contamination at the Site.

As mentioned previously, the remedy selected in the 1996 OU2 ROD addressed multiple sources of VOC contamination to groundwater at the Site. The major components of the selected remedy for AVX, one of the four sources targeted, included the following: excavation and removal of contaminated soil; off-Site low temperature desorption of soil contaminants, if necessary; upgradient and downgradient groundwater monitoring; implementation of groundwater treatment, if excavation and removal of the contaminated soil did not adequately improve the quality of the City Aquifer and if the property continued to affect the groundwater entering the municipal wells; and implementation of groundwater use restrictions.

AVX initiated the excavation of contaminated soil at its property in July 2000. Approximately 5,055 tons of contaminated soil was excavated to a depth of approximately 10 feet below ground surface (bgs) and transported off-Site for disposal before work was halted. AVX could not excavate all of the contaminated soil because the material extended beyond the area identified as contaminated in the OU2 ROD to beneath the southeast corner of the manufacturing building, which was fully occupied with AVX's manufacturing operations. Further excavation had the potential to impact the structural integrity of the occupied building. As a result, the excavation area was backfilled pending further study. Further evaluations revealed significant unknown contamination extending under the building and that additional excavation and removal of all contaminated soil would result in significant disruption to and/or shutdown of the on-going operations.

Following the backfilling at the AVX Property, EPA directed AVX to conduct soil and groundwater sampling activities at the AVX Property and properties to the south as part of a multi-phase investigation to assess the conditions at these properties. Results from these studies indicated that significant previously unknown VOC contamination is present in both soil and groundwater.

As indicated previously, on September 30, 2015, EPA issued a ROD Amendment for OU2 relating to the AVX Property that addressed soil and groundwater contamination in the Historical Source Area, and groundwater contamination in the Downgradient Till Unit and City Aquifer (refer to the Site Geology and Hydrogeology section in the OU2 AVX ROD Amendment for additional detail regarding geological and hydrogeologic conditions at the Site). The Downgradient Till Unit component of the selected remedy involves the construction and operation of a hydraulic trench containment system involving a gravel trench coupled with active groundwater recovery and treatment to prevent migration of groundwater downgradient of the AVX Property. Construction of this component of the selected remedy was completed in January 2023. The City Aquifer component of the selected remedy involves hydraulic pumping containment utilizing and maintaining an existing AVX Property production well (PW-1) as an active groundwater recovery system at a pumping rate that prevents further migration of contaminated groundwater within the City Aquifer. The AVX production well, in operation since 1959, continues to operate as part of the implementation of the OU2 AVX ROD Amendment selected remedy even though the plant closed down.

According to EPA's EJScreen tool, there are no demographic indicators for OU5 at the Site that would indicate a community with environmental justice concerns. Within and immediately near OU5, the national and State EJ index percentiles for all of the environmental and socioeconomic

indicators are at or below the 52nd percentile. The proposed remedy is not anticipated to result in adverse impacts to environmental resources that would affect low income or minority populations living within the vicinity of OU5.

3. COMMUNITY PARTICIPATION

On July 27, 2023, EPA released the Proposed Plan for the cleanup of OU5 to the public for comment. EPA assembled supporting documentation, which comprises the administrative record, and has made it available to the public at the information repositories maintained at the Olean Public Library located at Second and Laurens Streets, Olean, New York, and the EPA Region 2 Office in New York City, as well as at www.epa.gov/superfund/olean-wellfield.

Notice of the July 27, 2023, start of the public comment period and the availability of the above-referenced documents was published in *The Olean Times Herald* on July 27, 2023. A copy of the public notice published in *The Olean Times Herald* can be found in **Appendix V**. EPA accepted public comments on the Proposed Plan from July 27, 2023, through August 28, 2023.

On August 8, 2023, EPA held a public meeting at the Jamestown Community College, Cattaraugus County Campus, in the Mangano Reception Room, located at 305 North Barry Street, Olean, New York, to inform local officials and interested citizens about the Superfund process, to present the Proposed Plan for OU5, including the preferred remedial alternative, and to respond to questions and comments from the attendees. Responses to comments received at the public meeting and in writing during the public comment period are included in the Responsiveness Summary (See **Appendix V**).

4. SCOPE AND ROLE OF RESPONSE ACTION

Site remediation activities are sometimes segregated into different phases, or OUs, so that remediation of different, discrete environmental media or geographic areas of a site can proceed separately, whether sequentially or concurrently. EPA has designated five OUs for the Olean Well Field Site (refer to Figure 1 in Appendix I).

On September 24, 1985, EPA signed a ROD for OU1, which called for, among other things, the treatment of the municipal supply well water and the extension of the public water supply to residents utilizing private wells.

On September 30, 1996, EPA signed a ROD for OU2 to address the sources of the contamination in the groundwater. The four source areas targeted in the OU2 ROD were AVX, Alcas, Loohn's, and McGraw. On September 30, 2014, EPA amended the OU2 ROD to modify the selected remedy for the Alcas component of the OU2 ROD. The Alcas OU2 ROD Amendment addressed soil and groundwater contamination impacting the underlying aquifers, and also selected a remedy to address OU3 groundwater contamination. OU3 addresses groundwater contamination at an area south of the Alcas facility referred to as Parcel B.

On September 30, 2015, EPA amended the OU2 ROD to modify the selected remedy for the AVX component of the OU2 ROD. The OU2 AVX ROD Amendment selected an interim action to address soil and groundwater contamination until a final remedy for the AVX Property could be implemented. The OU2 AVX ROD Amendment indicated that a change in the current use of the

building in the future would trigger the performance of a feasibility study to evaluate source control and/or restoration actions, leading to the selection of a final remedy.

The major components of the OU2 AVX ROD Amendment include the following:

- Historical Source Area (Soil and Till Unit Groundwater): Maintenance of an exposure barrier utilizing existing surface covers (the building and paved areas in the northern portion of the Historical Source Area and the vegetative cover in the drainage swale area) to minimize leaching of volatile organic compounds (VOCs) from soil to groundwater and serve as a direct contact exposure barrier.
- Downgradient Till Unit (Groundwater): Construction and operation of a hydraulic trench containment system involving a gravel trench coupled with active groundwater recovery and treatment to prevent migration of groundwater downgradient of the AVX Property.
- City Aquifer (Groundwater): Hydraulic pumping containment utilizing and maintaining an existing AVX Property production well (PW-1) as an active groundwater recovery system at a pumping rate that prevents further migration of contaminated groundwater within the City Aquifer. An air stripper or carbon adsorption system or combination thereof will be added to the extraction system, as necessary to meet surface water discharge requirements.
- Implementation of institutional controls, including soil and groundwater use restrictions, to ensure the remedy remains protective.
- Development of a Site Management Plan (SMP) to provide for the proper management of the interim remedy post-construction, and to include long-term groundwater monitoring, periodic reviews and certifications. Until a final remedy is selected, the SMP will provide for the proper management of any contaminated unsaturated soil at the AVX Property and the evaluation of the potential for vapor intrusion at the existing building on the AVX Property and/or for any buildings constructed in the future, and mitigation, if necessary, in compliance with the SMP. The SMP will also provide for the proper implementation, management and maintenance of institutional controls. A change in the current use of the building in the future will trigger the performance of a feasibility study to evaluate source control and/or restoration actions, leading to the selection of a final remedy.
- Implementation of a long-term groundwater monitoring program as part of the SMP to verify the effectiveness of the interim remedy, and to track and monitor changes in the groundwater contamination over time at the AVX Property. The long-term groundwater monitoring program will consist of a comprehensive monitoring network made up of existing monitoring wells and additional monitoring wells and piezometers on and off the AVX Property, within not only the City Aquifer but also within the till unit, and also monitoring to further evaluate geochemical conditions.

The followings RAOs were established in the OU2 AVX ROD Amendment:

- Restore the City Aquifer beneath the AVX Property to its beneficial use as a source of drinking water by reducing contaminant levels to the more stringent of federal MCLs or New York State standards;
- Minimize, contain and/or eliminate sources of VOC contaminants already in the shallow groundwater at the AVX Property; and

- Minimize and/or eliminate the potential for future human exposure to Site contaminants via contact with contaminated groundwater and/or inhalation of vapors.

On September 30, 2022, EPA signed a ROD for OU4, which addresses groundwater contamination at certain residential and commercial properties to the south of the AVX Property.

OU5, which is the subject of this ROD, is the final planned phase of response activities at the AVX Property. OU5 addresses soil contamination located beneath and near the former AVX manufacturing building in the northern portion of the Historical Source Area. The OU5 remedy, in conjunction with the OU2 AVX ROD Amendment, constitutes the final remedy for the AVX Property.

5. SUMMARY OF SITE CHARACTERISTICS

5.1. Site Geology/Hydrogeology

The Olean Well Field is underlain by approximately 300 feet of unconsolidated glacial deposits. Previous groundwater investigations in the Olean Well Field have shown that the upper 100 feet of glacial deposits can be divided into five lithologic units based on color, texture, grain size and mode of deposition. These lithologic units have been grouped in topographically descending order into four hydrogeologic units referred to as the upper aquifer, upper aquitard (Till Unit), lower aquifer (City Aquifer), and lower aquitard.

The upper aquifer is comprised of glaciofluvial coarse sands and sandy gravels, recent fluvial deposits of fine sands, and silts with some clay. The upper aquifer is not continuous at the Olean Well Field Site. The thickest portion of the upper aquifer (approximately 41 feet) is found along the Allegheny River. The upper aquifer thins to the north, pinching out just south of the AVX Property. The upper aquifer is recharged by the infiltration of precipitation.

During previous investigations, groundwater in the upper aquifer was encountered at depths ranging from three feet bgs to more than 20 feet bgs and flow is generally toward the Allegheny River. North of the railroad tracks (on the AVX Property), groundwater flow is in a south to southeast direction in much of the undeveloped portion of the AVX Property with some components of flow towards the surface drainage swale that runs toward the unnamed stream. Groundwater and surface water east of the stream generally flow in a south-southwest direction, while groundwater and surface water to the west of the stream generally flows in a southeast direction.

The upper aquitard or Till Unit stratigraphically is located above the lower aquifer (referred to as the City Aquifer). This unit is a low-permeability lodgement till composed of greater than 50 percent silt and clay. This unit is heterogeneous and can contain some sandier layers that generally have limited lateral extents. The thickness of the till unit on the AVX Property generally ranges from 20 to over 30 feet. In the northern portion of the Olean Well Field Site this unit is present at the surface and consists of surficial till.

The City Aquifer consists of glacial outwash deposits of sand, silt, and gravel. The thickness of the City Aquifer is approximately 70 feet in the northern portion of the Site and thins to approximately 30 feet south of the Allegheny River. The City Aquifer is underlain by the lower aquitard, which has been

described as silt, clay, and fine to very fine sand, and was likely deposited in a pre-glacial lake environment. Regional groundwater level data and potentiometric surface maps indicate that lines of equal elevation for the upper aquifer generally parallel the Allegheny River. This indicates that groundwater flow is towards the river from both sides of the river valley.

The City Aquifer is the main source of drinking water for the City and Town of Olean. In addition, several industrial facilities in the area utilize wells completed in the City Aquifer for manufacturing activities. The regional groundwater flow within the City Aquifer is generally in a west-southwest direction. Recharge to the City Aquifer is via leakage from the upper aquifer through the upper aquitard or directly through the Till Unit (upper aquitard) where the upper aquifer is not present. The magnitude of leakage over the Olean Well Field Site is variable and is dependent on the thickness and permeability of the upper aquitard (Till Unit) and relative groundwater level differences between the upper aquifer and upper aquitard units and the City Aquifer. Natural flow conditions in the City Aquifer within the vicinity of the Site have been altered by the pumping of the municipal wells, in operation since 1985, and several industrial wells including an AVX production well. The AVX production well, in operation since 1959, continues to operate as part of the implementation of the OU2 AVX ROD Amendment selected remedy even though the plant closed down.

5.2. OU5 Investigation Summary

Soil Investigation Results from Previous Investigations at the AVX Property

Results of post-OU2 ROD investigations showed that VOC contamination in soil consists primarily of trichloroethene (TCE), 1,1,1-trichloroethane (1,1,1-TCA), tetrachloroethene (PCE), and the breakdown products cis-1,2-dichloroethene (cis-1,2-DCE), vinyl chloride, and 1,1-dichloroethane (1,1-DCA) with elevated concentrations of other VOCs, including toluene and xylenes.

As set forth in a January 29, 2013 Feasibility Study Investigation Report (FSIR) performed after work was halted on the OU2 ROD remedy, high concentrations of VOCs have been observed in soil (up to 1,614 parts per million (ppm) of total VOCs) beneath the southeast corner of the former manufacturing building by a maintenance shop and a former solvent underground storage tank (both along the eastern edge of the manufacturing building), and in areas immediately to the south and north of the manufacturing building. Minimal detections of VOC contamination were found in soil south of the fenced area of the AVX Property.

Concentrations of VOCs observed in groundwater indicate that a groundwater plume of VOC contamination in the till unit originates from the Historical Source Area and extends through the undeveloped area to the southern property boundary and OU4.

OU5 Feasibility Study Investigation Report (FSIR)

While prior investigations have characterized the hydrogeology and the nature and extent of contaminants in the subsurface throughout much of the AVX Property, the demolition of the former manufacturing building in 2020 enabled the collection of soil and groundwater samples beneath and adjacent to the former structure. This additional soil characterization and testing were also necessary to support the evaluation of remedial alternatives for contaminated soil in and around the footprint of the former manufacturing building. The investigation activities were designed to:

- Define the lateral and vertical extent of contaminants in soil located beneath and near the footprint of the former manufacturing building within and near the northern portion of the Historical Source Area; and
- Characterize the framework of the hydrogeologic units to better define the potential contaminant transport pathways within and near the source area.

A portion of the concrete slab of the former building was left in place and is currently acting as an exposure barrier to contaminated soil.

OU5 Soil Investigation Results

The first step of the OU5 soil characterization program included screening of near-surface soil/fill for the presence and magnitude of VOCs using a photoionization detector (PID). Information gathered using a PID is classified as screening level data and does not provide chemical specific information. Following the initial soil screening and preliminary surveying, whole core soil sampling (WCSS) and vertical aquifer profile (VAP) sampling was conducted. The locations of WCSS and VAP sampling were adjusted as needed based on access and the results of soil screening. A summary of the results of this work is presented below.

Soil Screening

The VOC contamination detected in soil consists primarily of TCE, 1,1,1-TCA, PCE, and the breakdown products cis-1,2-DCE, vinyl chloride, 1,1-DCA, 1,2-DCA, with elevated concentrations of other VOCs, including toluene and xylenes. 114 soil gas screening point locations were selected and organized in a grid layout approximately 25 feet apart, in and around the source area. For all locations and depths where soil gas could be drawn, the gas was pumped by and analyzed with a PID and data were recorded.

The highest concentrations of PID-measured VOCs were observed primarily outside of the footprint of the original building, which was constructed in 1950, with those elevated concentrations observed largely within the footprint of the historical Machine Shop/Maintenance area (constructed in 1978 and used as the building maintenance area), the Receiving Area, and the Chemical Storage area (both constructed in 2001). These levels ranged from 145-1,436 ppm. Some elevated PID-measured screening concentrations were also observed beneath adjacent areas within the southeastern corner of the footprint of the original building. These included one area historically noted as the Powder and Barrel Storage area but also on other maps noted as being used for waste storage. Some elevated PID-measured concentrations were also noted farther to the west beneath or near to the historical Tape and Reel Storage area. Refer to Figure 2 in Appendix I for the layout of the former manufacturing building.

Soil Quality Characterization

Following completion of the soil screening activities, whole core soil samples were collected by roto sonic drilling methods on a modified approximately 50-foot grid spacing at 40 locations. Approximately 300 soil samples were analyzed to better characterize the nature and extent of VOCs in soil, both saturated and unsaturated, within the source area. The results are summarized in Table A below. The data revealed that the highest mass of VOCs in soil is largely concentrated in areas

predicted by the soil gas screening data, with some deviations. The highest concentrations were observed within the former footprint of the Machine Shop/Maintenance area, beneath the former Receiving area, and extending into the former chemical storage/waste storage area. Other notable areas of higher concentrations included the head of the drainage swale to the south of the facility fence, and near the southeastern corner of the former Stage 1 remedial action excavation area.

Table A: Maximum Soil Contaminant Concentrations

Contaminant	Concentration (ppm)
1,1,1-TCA	226 DJ
TCE	1,500 DJ
PCE	723 DJ
<i>cis</i> -1,2-DCE	93.6 DJ
vinyl chloride	2.05 DJ
1,1-DCA	9.88 D

D = Identifies all compounds identified in the analysis at the secondary dilution factor.

J = The analyte was analyzed for and was positively identified, but the associated numerical value may not be consistent with the amount actually present in the environmental sample.

The concentrations of contaminants were observed to generally diminish with sample depth, though not consistently in all locations. Thin and discontinuous stringers of more permeable soil appear to have acted as pathways for contaminants to reach greater depths in certain locations.

During soil sampling, if retrieved core samples appeared to be both saturated and coarse-grained enough to produce water, VAP samples were collected. In total, only 13 of 40 borings contained enough water to facilitate VAP sampling, with only two of the 13 borings containing adequate water to sample at more than one depth.

VAP sampling results can be found below in Table B. Aside from some VAP groundwater sample locations with anomalously high COC concentrations, likely due to the presence of stringers containing more permeable material that can collect water containing high contaminant concentrations, the concentrations of contaminants in the VAP groundwater samples are relatively consistent with concentrations reported for groundwater sampled from monitoring wells during the semi-annual groundwater monitoring events which have been conducted since 2000.

**Table B: Maximum Groundwater
Contaminant Concentrations in VAP Samples**

Contaminant	Concentration (ppb)
1,1,1-TCA	59,000 D
TCE	120,000 D
PCE	4,000
<i>cis</i> -1,2-DCE	17,000
vinyl chloride	1,800
1,1-DCA	12,000

D = Identifies all compounds identified in the analysis at the secondary dilution factor.

Refer to the OU5 FSIR for additional details regarding the sampling results.

Previous investigations conducted at the AVX Property revealed VOC groundwater contamination as well as 1,4-dioxane, a semi-VOC, in the till unit beneath the AVX manufacturing building and in the undeveloped area between the building and the southern property boundary. Investigation results also showed that the City Aquifer has been affected, but at much lower concentrations than in the shallow (till) stratigraphic unit.

An assessment of natural attenuation conditions in groundwater was conducted as part of the 2015 OU2 ROD. Overall, the analyses indicated that some level of natural attenuation of Site-related contaminants is occurring. Groundwater samples revealed an increase in concentration of daughter products (e.g., *cis*-1,2-DCE and vinyl chloride) relative to the concentration of the parent compound (e.g., TCE). Reductive dechlorination is a natural attenuation process that can degrade chlorinated VOCs by transforming chlorinated compounds such as TCE to other compounds. Other natural attenuation processes can include dispersion, dilution, sorption, and volatilization. The observed concentrations of contaminants in soil and groundwater near to the former AVX manufacturing building suggest that some level of natural attenuation is occurring.

Additionally, ethene and ethane were detected in groundwater monitoring well samples, demonstrating occurrence of the full sequence of reductive dechlorination. The monitored natural attenuation (MNA) assessment also included analysis of electron acceptors, which showed moderate to strongly reducing conditions present.

The OU5 FS Report contains additional details, as does the full MNA Screening Analysis conducted in 2012. Both documents can be found in the Administrative Record file for the Site.

6. CURRENT AND POTENTIAL FUTURE LAND AND RESOURCE USES

6.1. Land Use

The Site includes residential, commercial, and industrial zones in the City of Olean. The AVX

Property is zoned for manufacturing use, and the areas immediately surrounding the AVX Property are zoned for industrial, commercial, and residential uses. EPA expects that the land-use pattern at and surrounding OU5 of the Site will not change in the foreseeable future.

6.2. Groundwater Use

Three municipal water supply wells (18M, 37M and 38M) at the Site provide water for the City and Town of Olean. These water supply wells draw water from the City Aquifer. An air stripper at municipal supply well 18M and a separate air stripper at municipal supply wells 37M and 38M treat the extracted groundwater before distribution to the public. The current total pumping rate for these municipal wells is approximately 3 million gallons per day. In addition, although the extension of the City of Olean's water line was completed in 1988, and private well users were connected to the public water supply in 1989, some residents refused EPA's efforts to connect to the public water supply and continue to use private wells as a source of potable water.

Surface water from the undeveloped area south of the former AVX manufacturing building flows toward the stream. Prior to entering the culvert, the stream picks up substantial flow volume due to release of water from AVX State Pollutant Discharge Elimination System (SPDES) Outfall 004 effluent, which was composed of wastewater used for production cooling when the plant operated. Although the AVX plant is no longer in operation, pumping well PW-1 continues to operate at a rate of approximately 300 gallons per minute to provide hydraulic control of the City Aquifer as part of the OU2 AVX ROD Amendment. The extracted water is discharged to the unnamed stream as part of the OU2 remedy.

The remedy selected in the OU2 AVX ROD Amendment also involves a hydraulic trench containment system with active groundwater recovery and treatment on the AVX Property. Construction of this component of the selected remedy was completed in January 2023. Groundwater that is collected and treated as part of this remedy is discharged to the City of Olean sewer system.

7. SUMMARY OF SITE RISKS

A baseline Human Health Risk Assessment (HHRA) and a qualitative ecological risk assessment were conducted as part of the 1996 OU2 ROD to estimate the risks associated with current and future conditions at the Site, including the AVX facility. A baseline risk assessment is an analysis of the potential adverse human health and ecological effects caused by hazardous substance exposure in the absence of any actions to control or mitigate these exposures under current and future land uses. A qualitative human health risk analysis was subsequently performed as part of the OU2 AVX ROD Amendment. The qualitative assessment focused on a comparison of contaminant concentrations identified at the time of the 1996 ROD and the 2015 ROD to evaluate the findings included in the baseline risk assessment, rather than a quantitative calculation of risk based on receptor exposure assumptions and toxicity.

The results of the baseline OU2 HHRA identified carcinogenic risk and/or noncarcinogenic hazards that were above the target carcinogenic risk range of 1×10^{-6} to 1×10^{-4} and the noncarcinogenic hazard index (HI) threshold of 1 for future residential exposure to groundwater. These results were confirmed in the OU2 AVX ROD Amendment. Carcinogenic risks and noncarcinogenic hazards for construction worker exposure to soil were also evaluated.

As discussed in more detail in the following sections, EPA has determined that the results of the baseline OU2 HHRA and the risk evaluation from the OU2 AVX ROD Amendment have not substantially changed. Therefore, an additional quantitative HHRA was not performed as part of OU5. However, since OU5 specifically addresses contaminated soil located beneath the AVX Property, an updated qualitative analysis concerning the risks associated with elevated VOC concentrations in soil is provided. Information concerning the baseline OU2 HHRA results for groundwater at the AVX Property can be found in the OU2 ROD and the OU2 AVX ROD Amendment.

7.1. Human Health Risk Assessment

A four-step process is utilized for assessing site-related human health risks for a reasonable maximum exposure (RME) scenario:

Hazard Identification – uses the analytical data collected to identify the contaminants of potential concern at the site for each medium, with consideration of several factors explained below;

Exposure Assessment - estimates the magnitude of actual and/or potential human exposures, the frequency and duration of these exposures, and the pathways (e.g., ingesting contaminated well-water) by which humans are potentially exposed;

Toxicity Assessment - determines the types of adverse health effects associated with chemical exposures, and the relationship between magnitude of exposure (dose) and severity of adverse effects (response); and

Risk Characterization - summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of site-related risks. The risk characterization also identifies contamination with concentrations which exceed acceptable levels, defined by the NCP as an excess lifetime cancer risk greater than 1×10^{-6} to 1×10^{-4} (also commonly expressed as: 1E-06 to 1E-04), an excess of lifetime cancer risk greater than 1×10^{-6} (i.e., point of departure) combined with site-specific circumstances, or a noncancer HI greater than 1; contaminants at these concentrations are considered contaminants of concern (COCs) and are typically those that will require remediation at the site. Also included in this section is a discussion of the uncertainties associated with these risks.

7.1.1. Hazard Identification

The baseline OU2 HHRA found in the OU2 ROD quantitatively evaluated the potential risks and hazards associated with exposure to soil at the AVX Property. In this step, the chemicals of potential concern (COPCs) in each medium were identified based on such factors as toxicity, frequency of detection, fate and transport of the contaminants in the environment, concentration, mobility, persistence, and bioaccumulation.

The COPC screening conducted at the time of the HHRA identified a variety of VOCs, SVOCs and inorganics in soil. A comprehensive list of all COPCs evaluated can be found in the HHRA in the

administrative record. Appendix II, Table 1 includes a comparison of concentrations detected in soil for the COCs during investigations supporting the OU2 ROD, OU2 AVX ROD Amendment and this ROD.

7.1.2. Exposure Assessment

Consistent with Superfund policy and guidance, the baseline HHRA assumed no remediation or institutional controls to mitigate or remove hazardous substance releases. Cancer risks and noncancer HIs were calculated based on an estimate of the RME expected to occur under current and future conditions at the Site. The RME is defined as the highest exposure that is reasonably expected to occur at a site.

Risks associated with exposure to contaminants in surface and subsurface soil were calculated for the ingestion and inhalation of contaminants by construction workers. A residential exposure scenario for soil was not calculated because all of the properties studied during the OU2 RI/FS were zoned for industrial or commercial use. It is anticipated that the AVX Property will continue to be used for commercial/industrial purposes in the future.

Typically, exposures are evaluated using a statistical estimate of the exposure point concentration (EPC), which is usually an upper-bound estimate of the average concentration for each contaminant, but in some cases may be the maximum detected concentration. 95% upper confidence limits were used to evaluate exposure in the baseline OU2 HHRA and can be found in the Administrative Record. For the purposes of the qualitative analysis performed for soil, an evaluation of maximum concentrations was performed. A summary of these concentration ranges is provided in Appendix II, Table 1. The soil exposure pathways evaluated for the baseline OU2 HHRA are included in Appendix II, Table 2.

7.1.3. Toxicity Assessment

In this step, the types of adverse health effects associated with contaminant exposures and the relationship between magnitude of exposure and severity of adverse health effects are determined. Potential health effects are contaminant-specific and may include the risk of developing cancer over a lifetime or other noncancer health effects, such as changes in the normal functions of organs within the body (e.g., changes in the effectiveness of the immune system). Some contaminants are capable of causing both cancer and noncancer health effects.

Under current EPA guidelines, the likelihood of carcinogenic risks and noncancer hazards due to exposure to Site chemicals are considered separately and were evaluated as such in the HHRA supporting the OU2 ROD. Consistent with current EPA policy, it was assumed that the toxic effects of the Site-related chemicals would be additive. Thus, cancer and noncancer risks associated with exposures to individual COPCs were summed to indicate the potential risks and hazards associated with mixtures of potential carcinogens and noncarcinogens, respectively.

Toxicity data for the OU2 HHRA were provided by the Integrated Risk Information System (IRIS) database or other sources that were identified as an appropriate reference for toxicity values consistent with EPA guidance. This information is presented in Appendix II Table 3 (Noncancer Toxicity Data Summary) and Table 4 (Cancer Toxicity Data Summary) attached hereto. These tables also include a

comparison of toxicity data used to evaluate risks in the OU2 ROD versus those currently available and their expected impact on risk and hazard. Additional toxicity information for all COPCs is presented in the baseline OU2 HHRA.

7.1.4. Risk Characterization

This step summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of site risks. Exposures are evaluated based on the potential risk of developing cancer and the potential for noncancer health hazards.

Noncarcinogenic Risks

Noncarcinogenic risks were assessed using a hazard index (HI) approach, based on a comparison of expected contaminant intakes and benchmark comparison levels of intake (reference doses, reference concentrations). Reference doses (RfDs) and reference concentrations (RfCs) are estimates of daily exposure levels for humans (including sensitive individuals) which are thought to be safe over a lifetime of exposure. The key concept for a noncancer HI is that a “threshold level” (measured as an HI of less than or equal to 1) exists at which noncancer health effects are not expected to occur. The estimated intake of chemicals identified in environmental media (*e.g.*, the amount of a chemical ingested from contaminated soil) is compared to the RfD or the RfC to derive the hazard quotient (HQ) for the contaminant in the particular medium. The HI is obtained by adding the hazard quotients for all compounds within a particular medium that impacts a particular receptor population.

The HQ for oral and dermal exposures is calculated as below. The HQ for inhalation exposures is calculated using a similar model that incorporates the RfC, rather than the RfD.

$$\text{HQ} = \text{Intake}/\text{RfD}$$

Where: HQ = hazard quotient
 Intake = estimated intake for a chemical (mg/kg-day)
 RfD = reference dose (mg/kg-day).

The intake and the RfD will represent the same exposure period (*i.e.*, chronic, subchronic, or acute).

As previously stated, the HI is calculated by summing the HQs for all chemicals for likely exposure scenarios for a specific population. An HI greater than 1 indicates that the potential exists for noncarcinogenic health effects to occur as a result of site-related exposures, with the potential for health effects increasing as the HI increases. When the HI calculated for all chemicals for a specific population exceeds 1, separate HI values are then calculated for those chemicals which are known to act on the same target organ. These discrete HI values are then compared to the acceptable limit of 1 to evaluate the potential for noncancer health effects on a specific target organ. The HI provides a useful reference point for gauging the potential significance of multiple contaminant exposures within a single medium or across media. A summary of the noncarcinogenic risks associated with these chemicals for each exposure pathway is contained in Table 5 of Appendix II attached hereto.

Noncarcinogenic hazards for construction worker exposure to soil were below the HI threshold of 1,

however, data collected to support the OU2 AVX ROD Amendment suggested that these hazards could be underestimated. This data, along with more recently acquired soil data, is further evaluated under the *Qualitative Analysis* section below.

Carcinogenic Risks

For carcinogens, risks are generally expressed as the incremental probability of an individual developing cancer over a lifetime as a result of exposure to a carcinogen under the conditions described in the *Exposure Assessment*, using the cancer slope factor (SF) for oral and dermal exposures and the inhalation unit risk (IUR) for inhalation exposures. Excess lifetime cancer risk for oral and dermal exposures is calculated from the following equation, while the equation for inhalation exposures uses the IUR, rather than the SF:

$$\text{Risk} = \text{LADD} \times \text{SF}$$

Where: Risk = a unitless probability (1×10^{-6}) of an individual developing cancer
 LADD = lifetime average daily dose averaged over 70 years (mg/kg-day)
 SF = cancer slope factor, expressed as $[1/(\text{mg/kg-day})]$.

These risks are probabilities that are usually expressed in scientific notation (such as 1×10^{-4}). An excess lifetime cancer risk of 1×10^{-4} indicates that one additional incidence of cancer may occur in a population of 10,000 people who are exposed under the conditions identified in the *Exposure Assessment*. Current Superfund guidance identify the range for determining whether a remedial action is necessary as an individual lifetime excess cancer risk of 10^{-4} to 10^{-6} (corresponding to a one-in-ten-thousand to a one-in-a-million excess cancer risk), with 10^{-6} being the point of departure.

Carcinogenic risks for construction worker exposure to soil were below the upper bound, or 1×10^{-4} , of the cancer risk range, however, data collected to support the OU2 AVX ROD Amendment suggested that these risks could be underestimated. This data, along with more recently acquired soil data, is further evaluated under the *Qualitative Analysis* section below.

Qualitative Analysis

Although the estimated total risks (5×10^{-5}) and hazards (HI=0.5) in soil calculated for the construction worker evaluated under the OU2 ROD were within the risk range and below the noncarcinogenic HI threshold of 1, data collected at the time of the OU2 AVX ROD Amendment identified higher concentrations of VOCs in soil compared to those evaluated in the OU2 HHRA. A qualitative determination was made in the OU2 AVX ROD Amendment that the risks associated with soil in the OU2 HHRA could be underestimated. It was also determined that contamination in the subsurface soil could serve as a source of continued groundwater contamination. Additional samples were collected as part of the 2023 OU5 FSIR. Table 1 in Appendix II provides minimum and maximum VOC concentrations detected in soil during the OU2 RI and during the post-OU2 ROD investigations at the AVX Property.

As can be seen in this table, the maximum results of the soil samples collected during the OU5 FSIR were either higher than those identified during the time of the OU2 ROD and OU2 AVX ROD Amendment or are within the same order of magnitude. Notably, the maximum concentrations of PCE

and TCE identified during the OU5 FSIR were over two times greater than the OU2 RI. Maximum concentrations for cis-1,2-DCE, vinyl chloride and xylene have also increased. Furthermore, as shown in Appendix II Tables 3 and 4, updated toxicity data would likely lead to higher hazard estimates for these chemicals, as well as higher risk estimates for TCE, compared to the time of the OU2 ROD. Therefore, EPA has determined that the unacceptable risks presented in the OU2 AVX ROD Amendment remain unacceptable and could be underestimated. Additionally, groundwater on the Site continues to exceed federal MCLs and New York State standards due to impacts from contaminated soil, underscoring the need to address soil as a source to groundwater.

7.1.5. Uncertainties

The procedures and inputs used to assess human health risks in this evaluation, as in all such assessments, are subject to a wide variety of uncertainties. In general, the main sources of uncertainty include:

- environmental chemistry sampling and analysis;
- environmental parameter measurement;
- fate and transport modeling;
- exposure parameter estimation; and
- toxicological data.

Uncertainty in environmental sampling arises in part from the potentially uneven distribution of chemicals in the media sampled. Consequently, there is significant uncertainty as to the actual levels present. Environmental chemistry-analysis error can stem from several sources including the errors inherent in the analytical methods and characteristics of the matrix being sampled.

Uncertainties in the exposure assessment are related to estimates of how often an individual would actually come in contact with the COCs, the period of time over which such exposure would occur, and in the models used to estimate the concentrations of the COCs at the point of exposure.

Uncertainties in toxicological data occur in extrapolating both from animals to humans and from high to low doses of exposure, as well as from the difficulties in assessing the toxicity of a mixture of chemicals. These uncertainties are addressed by making conservative assumptions concerning risk and exposure parameters throughout the assessment.

7.2. Ecological Risk Assessment

The AVX Property is approximately 18.5 acres in size and currently includes an open area with bare soil due to the recent removal of the former AVX building. Wetlands and a wooded area are located south of the former building area, which remains fenced. The fenced portion of the site that formerly comprised the AVX building does not currently provide habitat that could potentially support populations of indigenous wildlife receptor species. Therefore, there are no ecological risks currently recognized within this area. For the area outside of the fence, which includes the wooded area and wetland area, a qualitative ecological risk assessment was conducted as part of the OU2 ROD to determine if contamination present at the AVX Property was impacting the wooded or wetland area.

Given that the potential source of contamination in the wooded and wetland area would be contaminated groundwater discharging to the sediments, sediment samples were collected from the wetlands. Analysis of the samples did not reveal any VOC contamination. Several semi-volatile organic compounds (SVOCs) were detected but were not attributed to the AVX Property. Based on this evaluation, it was determined that there is not a completed exposure pathway from the AVX property groundwater to the wooded or wetland areas. Since the levels of contamination in groundwater at the AVX property have remained similar, or have declined, this assumption is still considered valid.

7.3. Basis for Taking Action

Based upon the results of the OU5 FSIR, the baseline OU2 ROD HHRA, and the updated qualitative analysis for OU5, the response action selected in this OU5 ROD is necessary to protect the public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment.

8. REMEDIAL ACTION OBJECTIVES

Remedial action objectives (RAOs) are specific goals to protect human health and the environment. These objectives are based on available information and standards, such as applicable or relevant and appropriate requirements (ARARs), to-be-considered (TBC) criteria, other guidance documents, and site-specific risk-based levels.

The followings RAOs have been established for OU5 of the Site:

- Reduce the migration of VOC contaminants in soil to groundwater.
- Eliminate the potential for human exposure to Site contaminants via contact with soil concentrations above NYSDEC soil cleanup objectives for commercial properties.

The RAOs established in the OU2 AVX ROD Amendment remain unchanged.

The cleanup levels for soil established for the OU5 COCs are identified in Table 9 in Appendix II attached hereto. The COCs are the same as those outlined in the 1996 OU2 ROD and the OU2 AVX ROD Amendment, except 1,4-dioxane. This compound was added to the COC list because of its presence in groundwater above federal MCLs and New York State standards. If it is discovered in soil above the cleanup level identified in Table 9, it would become a COC for the Site.

9. DESCRIPTION OF REMEDIAL ALTERNATIVES

CERCLA §121(b)(1), 42 U.S.C. §9621(b)(1), mandates that remedial actions be protective of human health and the environment, cost-effective, comply with ARARs, and utilize permanent solutions and alternative treatment technologies or resource recovery alternatives to the maximum extent practicable. Section 121(b)(1) also establishes a preference for remedial actions which employ, as a principal element, treatment to permanently and significantly reduce the volume, toxicity, or mobility of the hazardous substances, pollutants and contaminants at a site. CERCLA §121(d), 42 U.S.C. §9621(d), further specifies that a remedial action must attain a level or standard of control of the

hazardous substances, pollutants, and contaminants, which at least attains ARARs under federal and state laws, unless a waiver can be justified pursuant to CERCLA §121(d)(4), 42 U.S.C. §9621(d)(4). Detailed descriptions of the remedial alternatives presented in this ROD can be found in the Feasibility Study Report, dated July 2023.

The construction time for each remedial alternative reflects only the time required to construct or implement the remedy and does not include the time required to design the remedy, negotiate the performance of the remedy with any PRPs, or procure contracts for design and construction, or operation and maintenance.

9.1. Description of Common Elements Among Remedial Alternatives

Each of the alternatives address unsaturated contaminated soil located beneath and near the footprint of the former manufacturing building in the northern portion of the Historical Source Area.

Until a final remedy for the AVX Property is selected, the OU2 AVX ROD Amendment requires implementation of institutional controls and development of a Site management plan (SMP) to provide for the proper operation and maintenance (O&M) of the remedy for the AVX Property post-construction. The SMP includes a long-term groundwater monitoring program to track and monitor changes in the groundwater contamination over time at the AVX Property. The institutional controls selected in the OU2 AVX ROD Amendment would continue to apply to the AVX Property and as such would apply to each of the alternatives evaluated for OU5. Implementation of institutional controls and the SMP are ongoing.

Additionally, because the final remedy for the AVX Property (the OU5 selected remedy in combination with the remedy selected in the OU2 AVX ROD Amendment) will result in hazardous substances, pollutants, or contaminants remaining in and around the drainage swale area at the AVX Property above levels that would otherwise allow for unlimited use and unrestricted exposure, pursuant to Section 121(c) of CERCLA, statutory reviews will be conducted no less often than once every five years to ensure that the remedy remains protective of human health and environment.

9.2. Description of Remedial Alternatives

Alternative 1: No Action

<i>Capital Cost:</i>	\$0
<i>Periodic Costs:</i>	\$0
<i>Present-Worth Cost:</i>	\$0
<i>Construction Time:</i>	Not Applicable

The NCP requires that a “No Action” alternative be used as a baseline for comparing other remedial alternatives. Under this alternative, there would be no remedial actions actively conducted at OU5 to control or remove groundwater contaminants. This alternative also does not include monitoring or institutional controls.

Alternative 2: Long-Term Monitoring

<i>Capital Cost:</i>	\$44,000
<i>Periodic Costs:</i>	\$567,000
<i>Present-Worth Cost:</i>	\$291,000
<i>Construction Time:</i>	1 month

This alternative would rely on long-term monitoring of contaminant concentrations in soil to ensure concentrations are decreasing. As discussed above, reductions in contaminant concentrations in groundwater are occurring to a limited extent already from various naturally occurring physical, chemical, and biological processes. These processes occur naturally, in-situ, and act to decrease the mass or concentration of contaminants in the subsurface. Only non-augmented natural processes would be relied upon under this alternative. In addition, existing surface covers (concrete slab floor, pavement, and vegetative cover) would be maintained to control potential leaching of contaminants in soil to groundwater and prevent exposure.

For cost-estimating and planning purposes, four new groundwater monitoring wells would be installed, and periodic monitoring would be conducted to track attenuation of contaminants immediately beneath and/or downgradient of the unsaturated soil source.

Alternative 3: Excavation

<i>Capital Cost:</i>	\$2,228,000
<i>Periodic Costs:</i>	\$450,000
<i>Present-Worth Cost:</i>	\$2,414,000
<i>Construction Time:</i>	4 months

The major components of the soil excavation alternative are demolition and removal of the existing concrete slab floor and foundation supports, excavation of impacted unsaturated soil located beneath and near the footprint of the former manufacturing building, off-Site transportation and disposal of excavated material, and restoration with imported clean fill material. Figure 2 in Appendix I provides the approximate areas requiring excavation based on data collected during the FSIR. These areas will be further refined based on additional sampling.

Excavation areas would be restored with imported clean fill material to match the previously existing contours and grades. Imported clean fill material would meet NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation criteria for imported fill or soil at commercial or industrial properties. Surface restoration details would be developed during the remedial design.

For cost estimating and planning purposes, the conceptual design estimates 5,500 cubic yards (cy) of soil requiring excavation and off-Site transportation for disposal as non-hazardous waste at a solid waste landfill. Rainwater/surface water that accumulates in, and is then removed from, any excavation areas would be temporarily containerized onsite (e.g., in 21,000-gallon tanks). It is anticipated that any water that accumulates and is removed from the excavation would be treated by the groundwater treatment system at the AVX Property prior to discharge to the City of Olean sewer system.

Alternative 4: In-Situ Soil Solidification

<i>Capital Cost:</i>	\$2,715,000
<i>Periodic Costs:</i>	\$450,000
<i>Present-Worth Cost:</i>	\$2,901,000
<i>Construction Time:</i>	3.5 Months

The major components of the In-Situ Soil Solidification (ISS) alternative include the demolition and removal of the existing concrete slab floor and foundation supports, excavation and removal of the asphalt paved areas to establish a level working surface for the ISS mixing equipment, construction of a management area adjacent to the ISS target areas to accommodate bulk soil that would swell as a result of the soil mixing process and amendment addition.

Solidification refers to a cleanup method that prevents or slows the release of harmful chemicals from contaminated soil. These methods usually do not destroy the contaminants. Instead, they keep them from “leaching” above safe levels into the surrounding environment. Solidification binds the waste in a solid block of material and traps it in place, using a binding agent. This block is also less permeable to water than the waste.

During the Feasibility Study Investigation, a laboratory bench-scale ISS treatability study was conducted with soil from the AVX Property to identify the optimal percentage of reagents, dosing requirements, and effectiveness. This treatability study investigated the ability of Portland Cement (PC) and blast furnace slag (BFS), as well as zero-valent iron (ZVI), to reduce the leaching potential of contaminants. Based on the results, for cost-estimating and planning purposes, the conceptual design estimates approximately 5,500 cy of soil would be mixed with a blend of 2.5% PC and 4.5% ground-granulated BFS, with a water-to-reagent ratio of 4.5 (grams of water to grams of reagent) to solidify contaminants in-place, creating a low-permeability monolith.

The conceptual design estimates that a three-foot-thick cover would be designed to maintain the ISS-treated material below the frost line and to promote stormwater drainage away from the treatment zone. The protective cover would consist of a non-woven geotextile demarcation fabric, 2.5 to 3 feet of reuse soil, and approximately six inches of gravel at the surface for erosion protection.

It has been estimated that approximately 3,755 cy of non-impacted soil would be excavated to create the management area and would be used post-ISS construction for installation of a three-foot-thick cover over both the ISS treatment and management areas.

Under this alternative, long term monitoring of groundwater would be conducted to evaluate the long-term effectiveness and permanence of the solidified mass.

Alternative 5: In-situ Thermal Remediation

<i>Capital Cost:</i>	\$3,395,000
<i>Periodic Costs:</i>	\$450,000
<i>Present-Worth Cost:</i>	\$3,581,000
<i>Construction Time:</i>	6 months

This remedial alternative combines in-situ thermal remediation (ISTR) with a system to address vapor management within and around areas with the highest concentration of contaminants.

In-situ thermal treatment methods move or “mobilize” harmful chemicals in soil using heat. The chemicals move through soil toward wells where they are collected and piped to the ground surface to be treated using ex-situ cleanup methods. For cost estimating and planning purposes, the conceptual design assumes an ex-situ approach for vapor management composed of cooling, phase separation, air stripping, liquid-phase granular-activated carbon (GAC), and vapor-phase GAC following. If some water is encountered, multi-phase extraction (MPE) would be utilized.

Electrical resistance heating (ERH) and thermal conduction heating (TCH) were determined, based on their effectiveness for treating lower-permeability till with similar soil electrical properties, to be the most applicable ISTR technologies for source removal within the lower-permeability till unit at OU5. For cost estimating purposes, ERH was assumed for the development of this alternative.

Preliminary ERH layouts were developed using a regular 19-foot triangular grid pattern for the electrodes, with vertical MPE wells and horizontal vapor management wells located at the centroids between adjacent electrodes. Distributed temperature sensor strings would be used for performance monitoring. A thermally insulating vapor cap would be constructed to provide a no-flow barrier at the surface, limit heat losses to ground surface, and minimize the potential for recondensation of vapors near ground surface.

10. COMPARATIVE ANALYSIS OF ALTERNATIVES

In selecting a remedy for a site, EPA considers the factors set forth in CERCLA Section 121, 42 U.S.C. § 9621, by conducting a detailed analysis of remedial alternatives pursuant to the requirements of the NCP at 40 C.F.R. § 300.430(e)(9), EPA’s Guidance for Conducting Remedial Investigations and Feasibility Studies, OSWER Directive 9355.3-01, and EPA’s A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents, OSWER 9200.1-23.P. The detailed analysis consists of an assessment of the individual alternatives against each of the nine evaluation criteria set forth at 40 C.F.R. § 300.430(e)(9)(iii) and a comparative analysis focusing upon the relative performance of each alternative against those criteria.

The following “threshold” criteria are the most important and must be satisfied by any remedial alternative in order to be eligible for selection:

1. **Overall protection of human health and the environment** addresses whether or not a remedy provides adequate protection and describes how risks posed through each exposure pathway (based on a reasonable maximum exposure scenario) are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.
2. **Compliance with ARARs** addresses whether a remedy would meet all of the applicable or relevant and appropriate requirements of other federal and state environmental statutes and regulations or provide grounds for invoking a waiver. Other federal or state advisories, criteria,

or guidance are TBCs. While TBCs are not required to be adhered to by the NCP, the NCP recognizes that they may be very useful in determining what is protective or how to carry out certain actions or requirements.

The following “primary balancing” criteria are used to make comparisons and to identify the major tradeoffs between alternatives:

3. **Long-term effectiveness and permanence** refers to the ability of a remedy to maintain reliable protection of human health and the environment over time, once cleanup levels have been met. It also addresses the magnitude and effectiveness of the measures that may be required to manage the risk posed by treatment residuals and/or untreated wastes.
4. **Reduction of toxicity, mobility, or volume through treatment** is the anticipated performance of the treatment technologies, with respect to these parameters, that a remedy may employ.
5. **Short-term effectiveness** addresses the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation of the remedy.
6. **Implementability** is the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.
7. **Cost** includes estimated capital, O&M, and present-worth costs.

The following “modifying” criteria are used in the final evaluation of the remedial alternatives after the formal comment period, and they may prompt modification of the preferred remedy that was presented in the Proposed Plan:

8. **State acceptance** indicates whether, based on its review of the RI/FS report, HHRA, and Proposed Plan, the State concurs with, opposes, or has no comments on the proposed remedy.
9. **Community acceptance** refers to the public's general response to the alternatives described in the RI/FS report, HHRA, and Proposed Plan.

A comparative analysis of the remedial alternatives considered in this OU5 ROD, based upon the evaluation criteria noted above, follows.

10.1. Overall Protection of Human Health and the Environment

All of the alternatives except Alternative 1 (No Action) would provide adequate protection of human health and the environment by eliminating, reducing, or controlling risk through off-site disposal, in-situ treatment, engineering controls, and/or institutional controls. Alternative 2 (Long-Term Monitoring) would provide some protection from future exposure to contaminated soil through the maintenance of the existing cover material (concrete slab floor, pavement, and vegetative cover), and through institutional controls such as land-use restrictions. However, contaminated soil would remain in place above the cleanup levels.

Alternative 3 (Excavation) would permanently remove unsaturated soil with VOCs above the cleanup levels for off-Site disposal while Alternative 5 (In-Situ Thermal Remediation) would remove VOCs through in-situ treatment and ex-situ recovery for on-Site treatment. Under Alternative 4 (In-Situ Soil Solidification) contaminated soil would not be destroyed, but rather would be treated in-situ to bind the contaminants to the material and prevent or slow the release of contaminants from soil.

Alternatives 2, 3, 4, and 5 would achieve the RAOs. Alternative 1 (No Action) would not achieve the RAOs.

10.2. Compliance with ARARs

EPA has identified NYSDEC's soil cleanup objectives for the protection of groundwater (6 NYCRR § 375-6.5) as an ARAR, a "to-be considered," or other guidance to address contaminated soil at the Site. Refer to Table 9 for the cleanup levels for soil.

Under Alternatives 2 through 5, ARARs would be achieved. Although soil sampling results indicate that biodegradation of VOC contaminants may be occurring at the AVX Property, given the elevated concentrations of contaminants in soil, achievement of the cleanup levels under Alternative 2 may not be reached for many years. Under Alternative 2, elevated concentrations of contaminants in soil would result in the prolonged presence of contamination in the unsaturated soil, which would continue to act as a source to groundwater contamination and likely prevent or extend the attainment of the cleanup levels established in the OU2 AVX ROD Amendment.

Alternatives 2 through 4 would comply with location-specific ARARs, such as the Clean Water Act, to mitigate adverse impacts on protected wetlands. Alternatives 2 through 4 would comply with action-specific ARARs, such as hazardous waste management regulations that manage remediation derived waste. Alternative 1 would not comply with ARARs.

Chemical-, location-, and action-specific ARARs are identified in Appendix II, Tables 6, 7, and 8, respectively.

10.3. Long-Term Effectiveness and Permanence

Alternative 2 relies on naturally occurring in-situ processes to decrease the concentrations of contaminants over time. While degradation has been shown to occur in soil and groundwater at the AVX Property, given the elevated concentrations of contaminants present the timeframe to achieve the cleanup levels resulting in long-term protectiveness is not anticipated to occur in a reasonable timeframe. Alternatives 3 through 5 are all effective alternatives in the long-term because they would remove or solidify the contaminants in unsaturated soil located beneath and near the footprint of the former manufacturing building, through physical methods (excavation, Alternative 3), solidification (Alternative 4), and volatilization via thermal treatment followed by soil vapor extraction (Alternative 5). Alternatives 2 through 5 would permanently reduce accessible contaminant concentrations over time, while Alternatives 3, 4, and 5 would achieve permanent contaminant concentration reduction or immobilization more quickly. Alternative 1 would not achieve long-term effectiveness or permanence.

Potential Site impacts from climate change have been assessed, and the future performance of the remedy is currently not at risk due to the expected effects of climate change in the region and near the Site.

10.4. Reduction of Toxicity, Mobility or Volume

Alternative 2 would reduce the toxicity and volume of contaminants in soil over time, however, the timeframe to achieve the cleanup levels and long-term protectiveness may not be reached for many years. Under Alternative 3, the mobility, volume, and exposure to contaminants would be reduced through the removal and disposal of the soil at an approved off-Site facility. Furthermore, although currently not anticipated, off-site treatment, if required, would reduce the toxicity of the contaminated soil prior to disposal. Alternatives 4 and 5 provide active in-situ treatment of contaminants in soil that would greatly reduce the mobility of these contaminants. Alternative 5 would also reduce the volume and toxicity of contaminants because it destroys the contaminants rather than solidifying them in-place. Alternative 1 would not reduce the toxicity, mobility, or volume of contaminants.

10.5. Short-Term Effectiveness

Alternatives 2 through 5 may have short-term impacts to remediation workers, the public, and the environment during implementation. Alternative 2 could have minimal adverse short-term impacts since work is limited to the installation of four additional groundwater monitoring wells associated with the groundwater sampling program. Occupational health and safety controls would be implemented to mitigate exposure risks. Alternative 2 has an estimated implementation timeframe of 30 years, although it is unclear whether RAOs would be reached within 30 years. Alternative 1 would not have any short-term impacts as no implementation would be necessary.

Under Alternative 3, the potential risks to workers, the public, or the environment would increase relative to Alternative 2 due to substantial soil disturbance and offsite transportation of soil, although these activities would be managed through engineering controls, health and safety procedures, and worker training. The implementation timeframe for Alternative 3 is estimated to be approximately 4 months.

Under Alternative 4, the potential risks to workers, the public, or the environment would increase relative to Alternative 2, due to implementation of ISS although these activities would be managed through engineering controls, health and safety procedures, and worker training. The implementation timeframe for Alternative 4 is estimated to be approximately 3.5 months.

Installation of the electrodes and associated SVE and MPE wells for Alternative 5 may result in short-term exposure risks to workers, the public, or the environment, but these potential risks are likely lower than those from Alternatives 2, 3, and 4 because there will be less physical disturbance and movement of soil. These potential risks would be managed through engineering controls, vapor monitoring and mitigation, health and safety procedures, and worker training. The implementation timeframe for Alternative 5 is estimated to be approximately 6 months.

Based on the information contained above, Alternative 2 presents the least short-term impacts. Alternative 5, while presenting more short-term impacts than Alternative 2, has less short-term impacts as compared to Alternatives 3 and 4.

10.6. Implementability

All technologies under active Alternatives 3, 4, and 5 are established technologies with commercially available equipment and are implementable.

Alternative 5 would be the most difficult to implement, as it requires the most specialized equipment with the installation of electrodes, wells for vapor management, and MPE wells (as necessary), temperature monitoring points, a power delivery system, and waste stream controls. However, the equipment is conventional and readily available.

Alternatives 3 and 4 would be easier to implement than Alternative 5, but more difficult than Alternative 2, as Alternative 2 is not an active remedy.

10.7. Cost

“Cost” includes estimated capital and annual operation and maintenance costs, as well as present worth cost. Present worth cost is the total cost of an alternative over time in terms of today's dollar value. Cost estimates are expected to be accurate within a range of +50 to -30 percent. This is a standard assumption in accordance with EPA guidance.

The estimated capital, O&M, and present worth costs are discussed in detail in the FS Report. The cost estimates are based on the best available information. Alternative 1: No Action has no cost because no activities are implemented. The highest present worth cost alternative is Alternative 5, at \$3.58 million. The total present worth costs, using a discount rate of 7%, for Alternatives 2 through 5 are as follows:

Alternative	Capital Cost	O&M Costs	Total Present Worth
2. Long-Term Monitoring	\$44,000	\$567,000	\$291,000
3. Excavation	\$2,228,000	\$450,000	\$2,414,000
4. In-Situ Soil Solidification	\$2,715,000	\$450,000	\$2,901,000
5. In-Situ Thermal Remediation	\$3,395,000	\$450,000	\$3,581,000

10.8. State/Support Agency Acceptance

NYSDEC has consulted with NYSDOH and concurs with the selected remedy. A letter of concurrence is attached in Appendix IV attached hereto.

10.9. Community Acceptance

“Community Acceptance” considers whether the local community agrees with EPA's analyses and preferred alternative. Comments received on the Proposed Plan are an important indicator of community acceptance.

EPA solicited input from the community on the remedial alternatives proposed for OU5 at the Site. Oral comments received from community members at the August 8, 2023 public meeting generally

related to the details of historical site operations and the negative impact of these operations, the schedule for remediation of OU5 of the Site, and public health concerns. During the public comment period from July 27, 2023, through August 28, 2023, one written comment was received via e-mail, which can be found in Appendix V. Responses to the questions and comments received at the public meeting and in writing during the public comment period are included in the Responsiveness Summary (See Appendix V).

11. PRINCIPAL THREAT WASTES

The NCP establishes an expectation that EPA will use treatment to address the principal threats posed by a site whenever practicable (NCP Section 300.430(a)(1)(iii)(A)). The “principal threat” concept is applied to the characterization of “source materials” at a Superfund site. A Source material is material that includes or contains hazardous substances, pollutants, or contaminants that act as a reservoir for the migration of contamination to groundwater, surface water, or air, or act as a source for direct exposure. Principal threat wastes are those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained or would present a significant risk to human health or the environment in the event exposure should occur. The decision to treat these wastes is made on a site-specific basis through a detailed analysis of alternatives, using the remedy selection criteria which are described above. The manner in which principal threat wastes are addressed provides a basis for making a statutory finding that the remedy employs treatment as a principal element.

Varying concentrations of VOCs were detected in soil samples collected during previous investigations from borings installed within the main manufacturing building at the AVX Property. Results from previous investigations showed concentrations of 1,1,1-TCA as high as 990 ppm and TCE as high as 650 ppm in subsurface soil, indicative of the presence of DNAPL in the soil zone at approximate depths of 16 feet and 6 feet, respectively, below the foundation of the main building.

During the FSIR, concentrations of 1,1,1-TCA and TCE as high as 226 ppm and 1,500 ppm, respectively, in subsurface soil were revealed. The FSIR results are indicative of the presence of DNAPL in the soil zone at an approximate depth of five feet below the foundation of the main building. These findings show the presence of “principal threat” wastes at the AVX Property. The selected remedy for OU5 discussed in more detail below is expected to remove this contamination through excavation and off-Site disposal.

12. THE SELECTED REMEDY

Based upon the requirements of CERCLA, the results of OU5 investigations, the detailed analysis of the alternatives, and public comments, EPA has determined that Alternative 3 (Excavation) best satisfies the requirements of CERCLA Section 121, 42 U.S.C. §9621, and provides the best balance of tradeoffs among the remedial alternatives with respect to the NCP’s nine evaluation criteria, 40 CFR §300.430(e)(9).

12.1. Summary of the Rationale for the Selected Remedy

While Alternatives 3: Excavation, 4: In-Situ Soil Solidification and 5: In-Situ Thermal Remediation all use proven technologies to actively treat VOC-contaminated soil in OU5, Alternative 3 would permanently remove the contaminated soil located beneath and near the footprint of the former

manufacturing building in a relatively short implementation timeframe. Alternative 3 is also comparatively easier to implement than Alternatives 4 and 5 and uses conventional construction equipment.

Based upon the information currently available, the selected remedy (Alternative 3: Excavation) meets the threshold criteria and provides the best balance of tradeoffs compared to the other alternatives with respect to the balancing criteria. The selected remedy satisfies the following statutory requirements of Section 121(b) of CERCLA: 1) the selected remedy is protective of human health and the environment; 2) it complies with ARARs; 3) it is cost effective; and 4) it utilizes permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. Although it is not currently anticipated, if necessary, in order to meet the requirements of the disposal facilities, contaminated material would be treated prior to land disposal and only under such circumstances would the selected alternative partially satisfy the preference for treatment.

12.2. Description of the Selected Remedy

The major components of the selected remedy for OU5 include the following:

- Demolition and removal of existing concrete slab floor and foundation supports;
- Excavation of contaminated unsaturated soil located beneath and near the footprint of the former manufacturing building in the northern portion of the Historical Source Area;
- Off-Site transportation and disposal of excavated material; and
- Restoration with imported clean fill material.

As part of the remedial design, further evaluations will be conducted to define the depth of the water table and resulting excavation. If determined practicable, additional limited active remediation will be performed below the water table to address saturated soil in an effort to improve remediation timeframes for groundwater. During the remedial design, additional soil sampling will also be conducted to further evaluate the extent of contamination, including 1,4-dioxane.

The selected OU5 remedy to address contaminated soil located beneath and near the footprint of the former manufacturing building, in conjunction with the OU2 AVX ROD Amendment, constitutes the final remedy for the AVX Property.

The institutional controls to restrict use of the use of the property to industrial uses, as selected in the OU2 AVX ROD Amendment, continue to apply to the AVX Property and as such apply to this selected remedy as well.

The environmental benefits of the selected remedy may be enhanced by employing design technologies and practices that are sustainable in accordance with EPA Region 2's Clean and Green Energy Policy. During the remedial design, green remediation concepts, including the use of low-sulfur vehicles and the proximity to the landfill that would receive the excavated soil in an effort to reduce the impacts associated with truck trips, will be considered.

12.3. Summary of Estimated Remedy Costs

The estimated capital, O&M, and total present-worth costs for the selected remedy are \$2,228,000, \$450,000, and \$2,414,000, respectively. The costs estimates are based on available information and are order-of-magnitude engineering cost estimates that are expected to be between +50 to -30 percent of the actual project cost. Changes to the cost estimate can occur as a result of new information and data collected during the design of the remedy.

A cost estimate summary for the selected remedy is presented in Appendix II, Table 10 attached hereto.

12.4. Expected Outcomes of the Selected Remedy

The selected remedy actively addresses areas of VOC contaminated soil located beneath and near the footprint of the former manufacturing building at the AVX Property, identified as OU5 of the Site. The results of the risk assessment indicate that the contaminated soil at OU5 presents an unacceptable exposure risk. The response action selected in this ROD will eliminate risks associated with exposure to contaminated soil. In addition, the removal of contaminated soil is expected to facilitate and expedite the restoration of the City Aquifer. The selected remedy for OU5, in conjunction with the OU2 AVX ROD Amendment, constitutes the final remedy for the AVX Property.

13. STATUTORY DETERMINATIONS

EPA has determined that the selected remedy complies with the CERCLA and NCP provisions for remedy selection, meets the threshold criteria, and provides the best balance of tradeoffs among the alternatives with respect to the balancing and modifying criteria. These provisions require the selection of remedies that are protective of human health and the environment, comply with ARARs (or justify a waiver from such requirements), are cost effective, and utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. In addition, CERCLA includes a preference for remedies that employ treatment that permanently and significantly reduces the toxicity, mobility, or volume of hazardous substances as a principal element (or justifies not satisfying the preference). The following sections discuss how the selected remedy meets these statutory requirements.

13.1. Protection of Human Health and the Environment

The selected remedy will protect human health and the environment because it will permanently remove unsaturated soil with VOCs above the cleanup levels for off-Site disposal.

13.2. Compliance with ARARs

EPA has identified NYSDEC's soil cleanup objectives for the protection of groundwater (6 NYCRR § 375-6.5) as an ARAR, a "to-be considered," or other guidance to address contaminated soil at the Site. The selected remedy is expected to achieve cleanup levels for COCs in soil. The COCs and the relevant cleanup levels are provided in Table 9, which can be found in Appendix II attached hereto. A full list of the ARARs, TBCs, and other guidance related to implementation of the selected remedy is presented in Tables 6, 7, and 8 which also can be found in Appendix II.

13.3. Cost Effectiveness

A cost-effective remedy is one whose costs are proportional to its overall effectiveness (40 C.F.R. § 300.430(f)(1)(ii)(D)). Overall effectiveness is based on the evaluations of long-term effectiveness and permanence, reduction in toxicity, mobility, and volume through treatment, and short-term effectiveness. Overall effectiveness was evaluated by assessing three of the five balancing criteria in combination (long-term effectiveness and permanence; reduction in toxicity, mobility, and volume through treatment; and short-term effectiveness). Overall effectiveness was then compared to costs to determine cost-effectiveness.

Each of the alternatives underwent a detailed cost analysis. In that analysis, capital and annual O&M costs were estimated and used to develop present-worth costs. In the present-worth cost analysis, annual O&M costs were calculated for the estimated life of each alternative. The total estimated present worth cost for implementing the selected remedy is \$2,414,000.

Based on the comparison of overall effectiveness to cost, the selected remedy meets the statutory requirement that Superfund remedies be cost effective (40 C.F.R. § 300.430(f)(1)(ii)(D)) in that it represents reasonable value for the money to be spent and is thus cost effective. A four-month timeframe was used for planning and estimating purposes to remediate soil, although remediation timeframes could exceed this estimate.

13.4. Utilization of Permanent Solutions and Alternative Treatment (or Resource Recovery) Technologies to Maximum Extent Practicable

The selected remedy complies with the statutory mandate to utilize permanent solutions, alternative treatment technologies, and resource recovery alternatives to the maximum extent practicable because removing the contaminated soil is a permanent solution and, if necessary for disposal, treatment will be utilized.

13.5. Preference for Treatment as a Principal Element

CERCLA includes a preference for remedies that employ treatment that permanently and significantly reduce the volume, toxicity, or mobility of hazardous substances as a principal element (or justifies not satisfying the preference). Based on the sampling performed to date, the contaminated soil is not expected to require treatment to meet the requirements of off-site disposal facilities. While the selected remedy does not meet the statutory preference for treatment, it nonetheless reduces toxicity, mobility or volume through excavation and off-Site disposal and on balance is the alternative that best satisfies all of the NCP criteria.

13.6. Five-Year Review Requirements

The OU5 selected remedy, in combination with the OU2 AVX ROD Amendment, will result in hazardous substances, pollutants, or contaminants remaining in and around the drainage swale area at the AVX Property above levels that would otherwise allow for unlimited use and unrestricted exposure. As a result, in accordance with Section 121(c) of CERCLA, statutory reviews will be conducted no less often than once every five years to ensure that the remedy remains protective of human health and the environment.

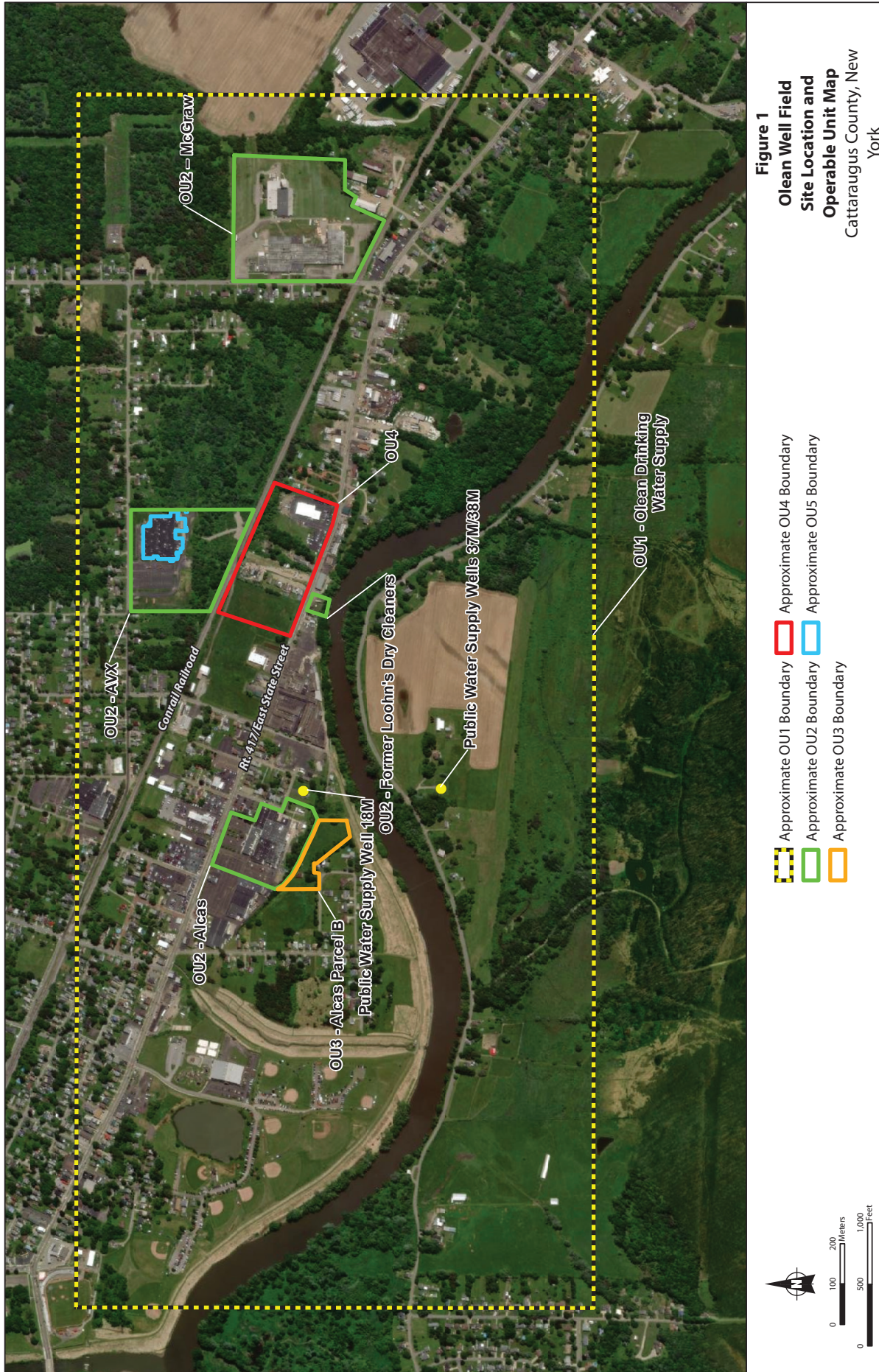
14. DOCUMENTATION OF SIGNIFICANT CHANGES

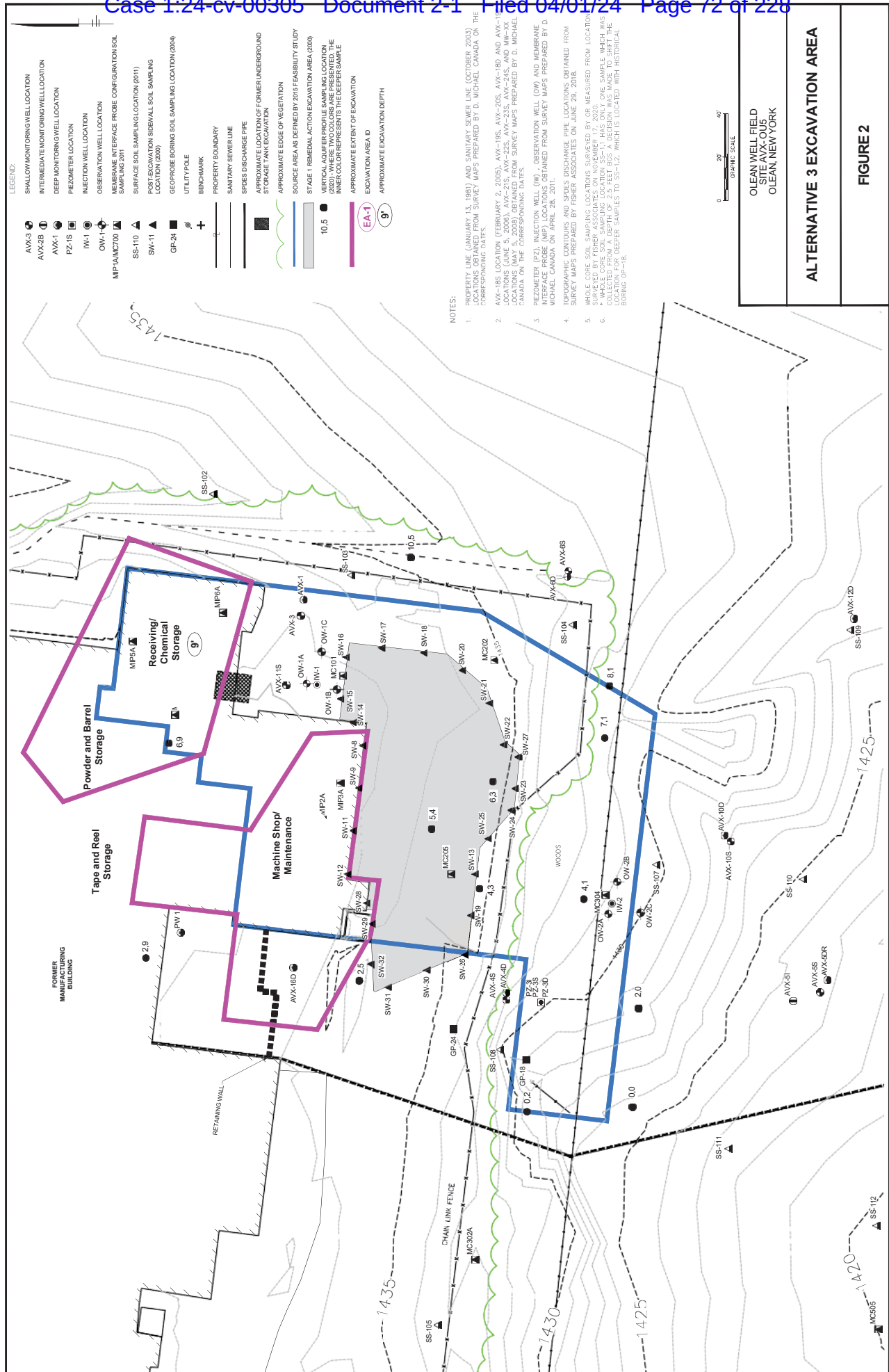
The Proposed Plan for OU5 was released on July 27, 2023. The Proposed Plan identified Alternative 3 as the preferred alternative for remediating the OU5 contaminated soil.

EPA considered all written and oral comments (including electronic formats such as e-mail) submitted during the public comment period and has determined that no significant changes to the remedy as originally identified in the Proposed Plan are necessary or appropriate.

APPENDIX I

FIGURES





APPENDIX II

TABLES

TABLE 1
Summary of Chemicals of Concern and Medium-Specific Exposure Point Concentrations

Scenario Timeframe: Current/Future

Medium: AVX Surface and Subsurface Soil

Exposure Medium: Surface and Subsurface Soil

Exposure Point	Chemical of Concern	Maximum Concentration Detected OU2 ROD (mg/kg)	Maximum Concentration Detected 2015 OU2 ROD Amendment (mg/kg)	Maximum Concentration Detected 2023 FSIR
Surface and Subsurface Soil	1,1,1-trichloroethane	1,300	990	226 DJ
	Tetrachloroethene	270	270	723 DJ
	Trichloroethene	500	650	1500 DJ
	Cis-1,2-dichloroethene	-----	65	93.6 DJ
	Trans-1,2-dichloroethene	-----	ND	0.04
	Vinyl chloride	-----	0.6	2.1 DJ
	Toluene	16	460	339 DJ
	1,2-dichloroethane	0.047	ND	0.083
	Xylene	4	315	320.5 DJ

ND - Indicates chemical was not detected

D – Indicates compounds identified in the secondary dilution factor

J – Estimated value

Summary of Chemicals of Concern and Medium-Specific Exposure Point Concentrations

This table presents the maximum detected concentrations of the chemicals of concern (COCs) detected in surface/subsurface soil across investigations supporting the 1996 OU2 ROD, OU2 AVX ROD Amendment and this 2023 OU5 ROD.

TABLE 2
Selection of Exposure Pathways

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Current/Future	Soil	Surface and Subsurface Soil	On-site soil (AVX)	Construction Worker	Adult	Ingestion/Dermal /Inhalation	Quant/Qual	Current or future adult construction workers could be exposed to on-property soil.

Quant/Qual = Quantitative and qualitative risk analysis performed.

Summary of Selection of Exposure Pathways

This table describes the exposure pathways associated with soil that were evaluated for the risk assessment, to support the OU2 ROD, OU2 AVX ROD Amendment, and this 2023 OU5 ROD in addition to the rationale for the inclusion of each pathway. Exposure media, exposure points, and characteristics of receptor populations are included. Exposure to groundwater to future child and adult residents was also evaluated as presented in the OU2 ROD and 2015 AVX ROD Amendment.

TABLE 3
Noncancer Toxicity Data Summary

Pathway: Oral/Dermal

Chemical of Concern	Oral RfD (OU2 ROD)	Units	Oral RfD (Current)	Units	Estimated Hazard Higher/Lower
1,1,1-trichloroethane	9.0E-01	mg/kg-day	2.0E+00	mg/kg-day	Lower
1,2-dichloroethane	-----	-----	6.0E-03	mg/kg-day	Higher
Tetrachloroethene	1.0E-01	mg/kg-day	6.0E-03	mg/kg-day	Higher
Trichloroethene	-----	-----	5.0E-04	mg/kg-day	Higher
Cis-1,2-dichloroethene	1.0E-02	mg/kg-day	2.0E-03	mg/kg-day	Higher
Trans-1,2-dichloroethene	1.7E-02	mg/kg-day	2.0E-02	mg/kg-day	Lower
Vinyl chloride	-----	-----	3.0E-03	mg/kg-day	Higher
Toluene	2.0E+00	mg/kg-day	8.0E-02	mg/kg-day	Higher
Xylene	4.0E+00	mg/kg-day	2.0E-01	mg/kg-day	Higher

Pathway: Inhalation

Chemical of Concern	Inhalation RfC (OU2 ROD)	Units	Inhalation RfC (Current)	Units	Estimated Hazard Higher/Lower
1,1,1-trichloroethane	-----	-----	5.0E+00	mg/m ³	Higher
1,2-dichloroethane	-----	-----	7.0E-03	mg/m ³	Higher
Tetrachloroethene	-----	-----	4.0E-02	mg/m ³	Higher
Trichloroethene	-----	-----	2.0E-03	mg/m ³	Higher
Cis-1,2-dichloroethene	-----	-----	4.0E-02	mg/m ³	Higher
Trans-1,2-dichloroethene	-----	-----	4.0E-02	mg/m ³	Higher
Vinyl chloride	-----	-----	1.0E-01	mg/m ³	Higher
Toluene	2.0E+00	mg/m ³	5.0E+00	mg/m ³	Lower
Xylene	-----	-----	1.0E-01	mg/m ³	Higher

Summary of Toxicity Assessment

This table provides non-carcinogenic hazard information which is relevant to the contaminants of concern in soil. The last column identifies if the hazard index would be higher (increased hazard) or lower (decreased hazard) if the hazards identified in the OU2 ROD were recalculated.

TABLE 4
Cancer Toxicity Data Summary

Pathway: Oral/Dermal

Chemical of Concern	Oral Cancer Slope Factor (OU2 ROD)	Units	Oral Cancer Slope Factor (Current)	Units	Risk Estimate Higher/Lower
1,1,1-trichloroethane	-----	-----	-----	-----	-----
1,2-dichloroethane	9.1E-02	mg/kg-day	9.1E-02	mg/kg-day	Same
Tetrachloroethene	5.32E-02	mg/kg-day	2.1E-03	mg/kg-day	Lower
Trichloroethene	1.1E-02	mg/kg-day	4.6E-02	mg/kg-day	Higher
Cis-1,2-dichloroethene	-----	-----	-----	-----	-----
Trans-1,2-dichloroethene	-----	-----	-----	-----	-----
Vinyl chloride	1.9E+00	mg/kg-day	7.2E-01	mg/kg-day	Lower
Toluene	-----	-----	-----	-----	-----
Xylene	-----	-----	-----	-----	-----

Pathway: Inhalation

Chemical of Concern	Unit Risk (OU2 ROD)	Units	Unit Risk (Current)	Units	Risk Estimate Higher/Lower
1,1,1-trichloroethane	-----	-----	-----	-----	-----
1,2-dichloroethane	2.6E-05	ug/m ³	2.6E-05	ug/m ³	Same
Tetrachloroethene	5.7E-07	ug/m ³	2.6E-07	ug/m ³	Lower
Trichloroethene	1.7E-06	ug/m ³	4.1E-06	ug/m ³	Higher
Cis-1,2-dichloroethene	-----	-----	-----	-----	-----
Trans-1,2-dichloroethene	-----	-----	-----	-----	-----
Vinyl chloride	8.4E-05	ug/m ³	4.4E-06	ug/m ³	Lower
Toluene	-----	-----	-----	-----	-----
Xylene	-----	-----	-----	-----	-----

Summary of Toxicity Assessment

This table provides carcinogenic risk information which is relevant to the contaminants of concern in soil. Toxicity data are provided for both the oral and inhalation routes of exposure. The last column identifies if the risk would be higher (increased risk) or lower (decreased risk) if the risks identified in the OU2 ROD were recalculated.

TABLE 5**Risk Characterization Summary – Carcinogens and Noncarcinogens****Scenario Timeframe:** Current/Future**Medium:** Surface and subsurface soil

Receptor	Carcinogenic Risk				Non-Carcinogenic Hazard			
	Ingestion	Dermal	Inhalation	Cancer Risk Total	Ingestion	Dermal	Inhalation	Hazard Index Total
Adult Construction Worker	4.97E-05	-----	2.32E-08	4.97E-05	0.502	-----	0.0512	0.507

Summary of Risk Characterization – Carcinogens and Non-Carcinogens

This table presents the cancer risks and non-cancer hazards for the construction worker exposed to soil, which was presented in the OU2 ROD. As stated in the National Contingency Plan, the point of departure is 10^{-6} and the acceptable risk range for site related exposure is 10^{-6} to 10^{-4} . The NCP also indicates that the acceptable non-cancer hazard index is 1. Concentrations detected in surface/subsurface soil on the AVX property during investigations supporting the OU2 AVX ROD Amendment as well as this OU5 ROD are largely higher than the concentrations reported in the OU2 ROD. Thus, a qualitative evaluation found that the risks and hazards identified in the OU2 ROD were underestimated and would likely be greater than those presented in the OU2 ROD. Regardless, the contaminants in soil continue to act as a source to elevated concentrations in groundwater exceeding Maximum Contaminant Levels and a remedial action is warranted.

Table 6
Chemical-Specific ARARs, TBCs, and Other Guidelines
Olean Well Field OU5 Superfund Site
Olean, New York

Media/Authority	Requirement	Requirement Synopsis
State Criteria, Advisories, and Guidance	New York Remedial Program Soil Cleanup Objectives (6 NYCRR Subpart 375-6.4, 6.5, 6.8), pursuant to the New York Environmental Conservation Law	Applies to the development and implementation of remedial programs for soil. Establishes numeric soil cleanup objectives both for unrestricted use and for restricted use for the protection of human health, the protection of ecological resources, and the protection of groundwater.
	NYSDEC Commissioner Policy - Soil Cleanup Guidance (CP-51), October 2010	This policy provides the framework and procedures for the selection of soil cleanup levels appropriate for each of the remedial programs in the NYSDEC Division of Environmental Remediation.
	Sampling, Analysis, and Assessment of Polyfluoroalkyl Substances (PFAS) Under NYSDEC's Part 375 Remedial Programs, April 2023	This document summarizes currently accepted procedures and updates previous NYSDEC Division of Environmental Remediation technical guidance pertaining to PFAS to ensure consistency in sampling, analysis, reporting, and assessment of PFAS.
Federal Criteria, Advisories, and Guidance	USEPA RSLs for Chemical Contaminants at Superfund Sites (USEPA May 2023 and periodic updates)	Provides non-enforceable, generic, risk-based contaminant concentrations to be used for site "screening."

Notes:

ARAR = applicable or relevant and appropriate requirement
 NYCRR = New York Codes, Rules, and Regulations
 NYSDEC = New York State Department of Environmental Conservation
 PFAS = per- and polyfluoroalkyl Substances
 PFOA = perfluorooctanoic acid
 PFOS = perfluorooctanesulfonic acid
 ppb = parts per billion
 RSL= Regional Screening Level
 TBC = To Be Considered
 USEPA = United States Environmental Protection Agency

Table 7
Location-Specific ARARs, TBCs, and Other Guidelines
Olean Well Field OU5 Superfund Site
Olean, New York

Site Feature/Authority	Requirement	Requirement Synopsis
Wetlands and Floodplains State Criteria, Advisories, and Guidance	New York Regulations concerning Freshwater Wetlands (6 NYCRR Parts 663 and 665), pursuant to the New York Environmental Conservation Law Section 404(b)(1) of the Clean Water Act, 33 U.S.C. §1344 (Permits for Dredged or Fill Material); Guidelines for Specification of Disposal Sites for Dredged or Fill Material (40 CFR Part 230); and Section 404(c) Procedures (40 CFR Part 231)	Regulations to ensure the preservation of New York regulated freshwater wetlands. Regulates activities that may adversely affect wetlands. Under these requirements, no activity that adversely affects a CWA Section 404 wetland shall be permitted if a practicable alternative with lesser effects is available. Controls discharges of dredged or fill material to protect aquatic ecosystems.
	40 CFR Part 6, Appendix A - Statement of Procedures on Floodplain Management and Wetlands Protection (44 FR 64177, Nov. 6, 1976, as amended at 50 FR 26323, June 25, 1985)	Action to avoid, whenever possible, the long- and short-term impacts on wetlands and to preserve and enhance wetlands. Plans for action in federal wetlands must be submitted for public review. Action to avoid, whenever possible, the long- and short-term impacts associated with the occupancy and modifications of floodplains development, wherever there is a practical alternative. Promotes the preservation and restoration of floodplains so that their natural and beneficial value can be realized.
Federal Regulatory Requirements	Fish and Wildlife Coordination Act (16 U.S.C. 661-668ee)	Any modification of a body of water that triggers a federal approval requires consultation with the U.S. Fish and Wildlife Service and the appropriate state wildlife agency to develop measures to prevent, mitigate, or compensate for losses of fish and wildlife. This requirement is addressed under CWA Section 404 requirements.

Table 7
Location-Specific ARARs, TBCs, and Other Guidelines
Olean Well Field OU5 Superfund Site
Olean, New York

Site Feature/Authority	Requirement	Requirement Synopsis
Endangered Species		
Federal Regulatory Requirements	Endangered Species Act (16 U.S.C. 1531-1532, 1536, and 1538-1540; 50 CFR Part 402)	Requires actions to ensure the continued existence of any endangered or threatened species. Also requires that their habitats will not be jeopardized by a site action.
State Criteria, Advisories, and Guidance	6 NYCRR Parts 182.1-182.2, 182.5, 182.8-182.13, and 182.15-182.16 - Endangered and Threatened Species of Fish and Wildlife; Species of Special Concern: Incidental Take Permits, pursuant to the New York Environmental Conservation Law	Requires actions to ensure the continued existence of endangered or threatened species.

Notes:

CFR = Code of Federal Regulations

CWA = Clean Water Act

FR = Federal Register

NYCRR = New York Codes, Rules, and Regulations

TBC = To Be Considered

U.S.C. = United States Code

Table 8
Action-Specific ARARs, TBCs, and Other Guidelines
Olean Well Field OU5 Superfund Site
Olean, New York

Media/Authority	Requirement	Requirement Synopsis
Air		
Federal Regulatory Requirements	Clean Air Act - National Primary and Secondary Ambient Air Quality Standards (40 CFR Parts 50.1-50.3 and 50.6) and National Emission Standards for Hazardous Air Pollutants (40 CFR Parts 61.01 - 61.19)	Establishes air emissions limits for hazardous air pollutants.
State Criteria, Advisories, and Guidance	New York Air Pollution Control Regulations: 6 NYCRR Part 200 (General Provisions); 6 NYCRR Part 201 (Permits and Registrations); 6 NYCRR Part 202 (Emissions Verification); 6 NYCRR Part 211 (General Prohibitions); 6 NYCRR Part 256 (Air Quality Classifications System); 6 NYCRR Part 257 (Air Quality Standards); 6 NYCRR Part 263 (Air Quality Regulations for Cattaraugus County); all pursuant to the New York Environmental Conservation Law	Prohibits emissions of any contaminant that may become injurious to human, plant, or animal life. Provides emission standards. Describes applicable permits.
	NYSDOH - Generic Community Air Monitoring Plan (DER-10, Appendix 1A)	Provides a generic plan for monitoring of air quality during remedial construction.
Surface Water		
Federal Regulatory Requirements	Federal National Pollutant Discharge Elimination System Regulations (40 CFR Part 122 and 125)	Federal water quality standards/pollutant effluent discharge standards.
State Criteria, Advisories, and Guidance	State Pollutant Discharge Elimination System Regulations (6 NYCRR Part 750), pursuant to Article 17 of the New York Environmental Conservation Law (Consolidated Laws of New York, Chapter 43-B, Article 17), New York State Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations (6 NYCRR Part 703), and New York State Division of Water Technical and Operational Guidance Series (TOGS) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (TOGS 1.1.1)	Establishes state water quality standards/pollutant effluent discharge standards.
Waste		

Table 8
Action-Specific ARARs, TBCs, and Other Guidelines
Olean Well Field OU5 Superfund Site
Olean, New York

Media/Authority	Requirement	Requirement Synopsis
Federal Regulatory Requirements	RCRA 40 CFR Part 261.30-261.31 and 261.170-261.179 (Identification and Listing of Hazardous Waste), 40 CFR Part 262.11, 262.13, 262.18, 262.40, 262.44 and subparts B, C, and H (Standards Applicable to Generators of Hazardous Waste); and 40 CFR Part 263.10-263.12, 263.20-263.22 and 263.25 Standards Applicable to Transporters of Hazardous Waste	Defines waste that are subject to regulation as hazardous waste under 40 CFR Parts 262-264. Defines regulations applicable to generators and transporters of hazardous waste.
	USDOT Rules for Transportation of Hazardous Materials (49 CFR Parts 107, 171, 172, 177, 179)	Outlines procedures for the packaging, labeling, manifesting, and transporting of hazardous materials.
	New York Solid Waste Management Regulations (6 NYCRR Part 360)	Establishes standards and criteria for solid waste management operations. Regulations apply to land disposal of non-hazardous wastes.
	New York Hazardous Waste Management Regulations (6 NYCRR Parts 370-376)	Establishes criteria for identifying and handling hazardous waste. Regulations apply to owners and operators of facilities that treat, store, or dispose hazardous wastes.
	New York State Waste Transporter Regulations (6 NYCRR Part 364)	Establishes permit requirements for transportation of regulated waste.
State Criteria, Advisories, and Guidance	New York State Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities (6 NYCRR Part 372)	Establishes record keeping requirements and standards related to the manifest system for hazardous wastes.
General		
Federal Criteria, Advisories, and Guidance	USEPA Region 2 Clean and Green Policy	Establishes preferences for sustainable technologies and practices for federal cleanup programs.
State Criteria, Advisories, and Guidance	NYSDEC DER Green Remediation (DER-31, January 2011)	Defines "green remediation" and identifies the NYSDEC's approach to implementing green remediation.
	NYSDEC Groundwater Monitoring Well Decommissioning Policy (CP-43, November 2009)	Provides the procedures for decommissioning groundwater monitoring wells.

Notes:

CFR = Code of Federal Regulations
 DAR = Division of Air
 DER = Division of Environmental Remediation
 NYCRR = New York Codes, Rules, and Regulations
 NYSDEC = New York State Department of Environmental Conservation
 OSWER = Office of Solid Waste and Emergency Response
 RCRA = Resource Conservation and Recovery Act
 RSL = Regional Screening Level
 TOGS = Technical and Operational Guidance Series
 TBC = To Be Considered
 USEPA = United States Environmental Protection Agency
 WQC = Water Quality Criteria

Table 9 - Cleanup Levels for Chemicals of Concern

Chemicals of Concern (COCs)	NYSDEC Soil Cleanup Objectives (ppm)*
TCE	0.47
<i>Cis</i> -1,2-DCE	0.25
1,4-dioxane	0.1
Vinyl Chloride	0.02
1,1,1-TCA	0.68
1,2-DCA	0.02
Toluene	0.7
Xylene	1.6
<i>Trans</i> -1,2-DCE	0.19
PCE	1.3

* NYSDEC SCOs [6 NYCRR Section 375-6.5] are based on the protection of groundwater.

Table 10
Cost Estimate Summary for the Selected Remedy

Item Description	Estimated Quantity	Unit	Unit Price	Cost
Site Preparation				
Permits and Notifications	1	Lump Sum	\$5,000.00	\$5,000
Submittals	1	Lump Sum	\$5,000.00	\$5,000
Mobilization	1	Lump Sum	\$134,000.00	\$134,000
Temporary Controls, Facilities, and Project Support	1	Lump Sum	\$40,000.00	\$40,000
Construction Layout and Surveying	1	Lump Sum	\$20,000.00	\$20,000
Utility Termination / Utility Protection	1	Lump Sum	\$5,000.00	\$5,000
			Subtotal	\$209,000
Implementation				
On-Site Construction Wastewater Handling	1	Lump Sum	\$ 30,000.00	\$30,000
Imported Fill Material Geotechnical Sampling	2	Per Sample	\$ 600.00	\$1,200
Imported Fill Chemical Sampling	15	Per Sample	\$ 1,160.00	\$17,400
Concrete Removal	13,000	Square Feet	\$ 1.50	\$19,500
Soil Excavation - Benching/Sloping	275	Cubic Yard	\$ 30.00	\$8,250
Excavation Support - Trench Box	1	Lump Sum	\$ 25,000.00	\$25,000
Soil Excavation	5,500	Cubic Yard	\$ 30.00	\$165,000
Post-Excavation Soil Sampling	27	Per Sample	\$ 55.00	\$1,464
Soil Drying Agent	20	Ton	\$ 400.00	\$8,000
Waste Characterization Sampling	5	Per Sample	\$ 600.00	\$3,000
Transportation and Disposal - C&D Debris	600	Ton	\$ 40.00	\$24,000
Transportation and Disposal - Non-Hazardous Soil and Debris	10,000	Ton	\$ 65.00	\$650,000
			Subtotal	\$952,814
Site Restoration				
General Fill	8,700	Ton	\$26.00	\$226,200
Type 2 Subbase	1,200	Ton	\$80.00	\$96,000
Demobilization	1	Lump Sum	\$110,000.00	\$110,000
			Subtotal	\$432,200
Management				
Engineering Design and Coordination	1	Lump Sum	\$ 90,000.00	\$90,000
Construction Oversight	1	Lump Sum	\$ 225,000.00	\$225,000
			Subtotal	\$315,000
			Total	\$1,909,014
			Construction Contingency (20%)	\$318,803

CAPITAL COST	\$2,228,000
TOTAL ANNUAL INSPECTION AND COVER/FENCE MAINTENANCE COSTS	\$450,000

NET PRESENT VALUE (7% Discount Rate) \$2,414,000

APPENDIX III

ADMINISTRATIVE RECORD INDEX

ADMINISTRATIVE RECORD INDEX OF DOCUMENTS

FINAL

07/26/2023

REGION ID: 02

Site Name: OLEAN WELL FIELD
 CERCLIS ID: NYD980528657
 OUID: 05
 SSID: 0216
 Action:

DocID:	Doc Date:	Title:	Image Count:	Doc Type:	Addressee Name/Organization:	Author Name/Organization:
676982	7/26/2023	ADMINISTRATIVE RECORD INDEX FOR OU5 FOR THE OLEAN WELL FIELD SITE	5	Administrative Record Index		(US ENVIRONMENTAL PROTECTION AGENCY)
54611	09/24/1985	Record of Decision - Olean Well Field Site, Olean, Cattaraugus County, New York, September 24, 1985.	37	Report		(US ENVIRONMENTAL PROTECTION AGENCY)
54635	12/01/1993	Report: Final Risk Assessment, Olean Well Field, Olean, New York, prepared for U.S. EPA, Region II, prepared by Ebasco Services Incorporated, December 1993.	172	Report	(US ENVIRONMENTAL PROTECTION AGENCY)	(EBASCO SERVICES INC)
54888	09/30/1996	Record of Decision - Olean Well Field Site, Olean, Cattaraugus County, New York, September 1996.	327	Report		(US ENVIRONMENTAL PROTECTION AGENCY)
267626	03/18/1998	CONSENT DECREE CIVIL ACTION NO. 1:98-CV-00054 UNITED STATES v. AVX CORPORATION FOR THE OLEAN WELL FIELD SITE	113	Legal Instrument		(US DISTRICT COURT FOR THE WESTERN DISTRICT OF NEW YORK)
300260	03/01/1999	FINAL REMEDIAL DESIGN / REMEDIAL ACTION WORK PLAN FOR OU2 FOR THE OLEAN WELL FIELD SITE	59	Work Plan	(AVX CORPORATION)	(BBL ENVIRONMENTAL SERVICES INCORPORATED)

ADMINISTRATIVE RECORD INDEX OF DOCUMENTS

FINAL

07/26/2023

REGION ID: 02

Site Name: OLEAN WELL FIELD
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 OUID: 05
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 Action:

DocID:	Doc Date:	Title:	Image Count:	Doc Type:	Addressee Name/Organization:	Author Name/Organization:
122681	04/01/2001	STAGE 1 REMEDIAL ACTION REPORT VOLUME I FOR THE OLEAN WELL FIELD SITE	131	Report	(AVX CORPORATION)	(BLASLAND, BOUCK & LEE, INCORPORATED)
122682	04/01/2001	STAGE 1 REMEDIAL ACTION REPORT VOLUME II FOR THE OLEAN WELL FIELD SITE	833	Report	(AVX CORPORATION)	(BLASLAND, BOUCK & LEE, INCORPORATED)
297740	07/20/2012	ARCADIS'S MONITORED NATURAL ATTENUATION SCREENING ANALYSIS IN RESPONSE TO EPA'S COMMENT 26 TO THE FEASIBILITY STUDY REPORT FOR THE AVX CORPORATION PROPERTY FOR THE OLEAN WELL FIELD SITE	16	Letter	MANNINO,PETER (US ENVIRONMENTAL PROTECTION AGENCY)	HANISH,MARK,B (BBL ENVIRONMENTAL SERVICES INCORPORATED)
682183	04/16/2013	COMPREHENSIVE ADMINISTRATIVE RECORD INDEX FOR OU1 FOR THE OLEAN WELL FIELD SITE	2	Administrative Record Index		(US ENVIRONMENTAL PROTECTION AGENCY)
687031	07/16/2013	COMPREHENSIVE ADMINISTRATIVE RECORD INDEX FOR OU2 FOR THE OLEAN WELL FIELD SITE	24	Administrative Record Index		(US ENVIRONMENTAL PROTECTION AGENCY)
319291	09/30/2015	ADMINISTRATIVE RECORD INDEX FOR OU2 - AVX ROD AMENDMENT FOR THE OLEAN WELL FIELD SITE	15	Administrative Record Index		(US ENVIRONMENTAL PROTECTION AGENCY)
372868	09/30/2015	RECORD OF DECISION AMENDMENT FOR OU2 - AVX PROPERTY FOR THE OLEAN WELL FIELD SITE	176	Report		MUGDAN,WALTER,E (US ENVIRONMENTAL PROTECTION AGENCY)

ADMINISTRATIVE RECORD INDEX OF DOCUMENTS

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 OUID: 05
 SSID: 0216
 Action:

DocID:	Doc Date:	Title:	Image Count:	Doc Type:	Addressee Name/Organization:	Author Name/Organization:
458774	01/25/2017	AMENDED REMEDIAL DESIGN / REMEDIAL ACTION CONSENT DECREE OU2 CIVIL ACTION NO. 1:98-CV-00054 REGARDING AVX CORPORATION FOR THE OLEAN WELL FIELD SITE	245	Legal Instrument		(UNITED STATES DISTRICT JUDGE) CUMMINGS, KURT, P (AVX CORPORATION) MUGDAN, WALTER (US ENVIRONMENTAL PROTECTION AGENCY)
607915	01/01/2018	REMEDIAL DESIGN WORK PLAN AVX PROPERTY FOR OU2 FOR THE OLEAN WELL FIELD SITE	823	Work Plan		(AVX CORPORATION)
689015	03/20/2018	NOTICE OF CESSATION OF OPERATIONS AT AVX CORPORATION FOR OU5 FOR THE OLEAN WELL FIELD SITE	2	Letter	(US DEPARTMENT OF JUSTICE) (US ENVIRONMENTAL PROTECTION AGENCY)	(NIXON PEABODY LLP)
607919	09/01/2018	PRE-DESIGN INVESTIGATION REPORT AVX PROPERTY FOR OU2 FOR THE OLEAN WELL FIELD SITE	161	Report		(AVX CORPORATION)
689017	05/29/2020	AMENDED FEASIBILITY STUDY HEALTH AND SAFETY PLAN FOR AVX CORPORATION FOR OU2 FOR THE OLEAN WELL FIELD SITE	174	Work Plan		(ARCADIS)
615296	09/01/2020	FEASIBILITY STUDY WORK PLAN - SOURCE AREA FOR OU2 FOR THE OLEAN WELL FIELD SITE	47	Work Plan	(AVX CORPORATION)	(ARCADIS)

ADMINISTRATIVE RECORD INDEX OF DOCUMENTS

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DocID:	Doc Date:	Title:	Image Count:	Doc Type:	Addressee Name/Organization:	Author Name/Organization:
689016	05/29/2021	FEASIBILITY STUDY QUALITY ASSURANCE PROJECT PLAN FOR AVX CORPORATION FOR OU2 FOR THE OLEAN WELL FIELD SITE	794	Work Plan		(ARCADIS)
677369	07/09/2021	FINAL 100% REMEDIAL DESIGN REPORT FOR THE AVX PROPERTY FOR OU2 FOR THE OLEAN WELL FIELD SITE	1841	Report		(ARCADIS)
677370	07/09/2021	TRANSMITTAL OF THE FINAL 100% REMEDIAL DESIGN REPORT AND RESPONSE TO COMMENTS ON THE 95% REMEDIAL DESIGN REPORT FOR THE AVX PROPERTY FOR OU2 FOR THE OLEAN WELL FIELD SITE	5	Letter	MANNINO, PIETRO (US ENVIRONMENTAL PROTECTION AGENCY)	(ARCADIS)
638430	10/19/2021	TRANSMITTAL OF THE REMEDIAL ACTION WORK PLAN FOR OU2 - AVX PROPERTY FOR THE OLEAN WELL FIELD SITE	1	Letter	MANNINO, PIETRO (US ENVIRONMENTAL PROTECTION AGENCY)	HANISH, MARK (ARCADIS)
638431	10/19/2021	REMEDIAL ACTION WORK PLAN FOR OU2 - AVX PROPERTY FOR THE OLEAN WELL FIELD SITE	100	Work Plan		HANISH, MARK (ARCADIS)
677221	06/30/2022	FEASIBILITY STUDY INVESTIGATION REPORT - SOURCE AREA FOR OUS FOR THE OLEAN WELL FIELD SITE	1576	Report	(KYOCERA AVX COMPONENTS CORPORATION)	(ARCADIS)
630531	09/30/2022	ADMINISTRATIVE RECORD INDEX FOR OU4 FOR THE OLEAN WELL FIELD SITE	6	Administrative Record Index		(US ENVIRONMENTAL PROTECTION AGENCY)

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Site Name: OLEAN WELL FIELD
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 Action:

DocID:	Doc Date:	Title:	Image Count:	Doc Type:	Addressee Name/Organization:	Author Name/Organization:
689014	07/01/2023	FEASIBILITY STUDY REPORT - AVX SOURCE AREA KYOCERA AVX COMPONENTS CORPORATION FOR OU5 FOR THE OLEAN WELL FIELD SITE	135	Report	(KYOCERA AVX COMPONENTS CORPORATION)	(ARCADIS)
652561	7/26/2023	PROPOSED PLAN FOR OU5 FOR THE OLEAN WELL FIELD SITE	19	Publication		(US ENVIRONMENTAL PROTECTION AGENCY)

APPENDIX IV

STATE LETTER OF CONCURRENCE

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Office of the Director
625 Broadway, 12th Floor, Albany, New York 12233-7011
P: (518) 402-9706 | F: (518) 402-9020
www.dec.ny.gov

September 25, 2023

Transmitted Via E-mail ONLY

Mr. Pat Evangelista, Director
Emergency and Remedial Response Division
United States EPA, Region 2
290 Broadway, Floor 19
New York, New York 10007-1866
Evangelista.Pat@epa.gov

RE: Olean Well Field, Site No. 905014
OU5 Record of Decision - New York State Concurrence

Dear Pat:

The New York State Department of Environmental Conservation (Department) has reviewed the Record of Decision (dated September 2023). We understand the remedy selected addresses soil contamination at a discrete area of the property located at 1695 Seneca Avenue, Olean, New York (AVX Property) designated as EPA Operable Unit 5 (OU5) of the Olean Well Field Superfund Site (Site) in Cattaraugus County, New York. OU5 includes contaminated soil that is located beneath and near the footprint of a former manufacturing building located in the northern portion of the Historical Source Area at the AVX Property. The selected remedy includes:

- Demolition and removal of the existing concrete slab floor and foundation supports;
- Excavation of contaminated unsaturated soil located beneath and near the footprint of the former manufacturing building in the northern portion of the Historical Source Area;
- Off-Site transportation and disposal of excavated material; and
- Restoration with imported clean fill material.

As part of the remedial design, further evaluations would be conducted to define the depth of the water table and resulting excavation. If determined practicable, additional limited active remediation could be performed below the water table to address saturated soil in an effort to improve remediation timeframes for groundwater. During the remedial design,

additional soil sampling would also be conducted to further evaluate the extent of contamination, including 1,4-dioxane.

The OU5 remedy in conjunction with the OU2 ROD Amendment will constitute the final remedy for the AVX Property.

The environmental benefits of the remedial alternative may be enhanced by employing design technologies and practices that are sustainable.

EPA released the Proposed Plan for the cleanup of OU5 to the public for comment on July 27, 2023. EPA also held a public meeting on August 8, 2023 to present the Proposed Plan for OU5 to local officials and interested citizens and to solicit input from the community on the remedial alternatives proposed for OU5. EPA considered all written and oral comments submitted during the public comment period (July 27, 2023 through August 28, 2023), which are documented in the Responsiveness Summary section of the ROD, and determined that no significant changes to the remedy, as originally identified in the Proposed Plan, were necessary or appropriate. With this understanding, we concur with the selected remedy for the Olean Well Field OU5 Site.

If you have any questions or need additional information, please contact Mr. Steven Moeller at (716) 851-7220.

Sincerely,

Andrew Guglielmi

Andrew O. Guglielmi

Director

Division of Environmental Remediation

ec: P. Mannino, USEPA, Region 2 (mannino.pietro@epa.gov)
M. Wurtz, USEPA, Region 2 (wurtz.maeve@epa.gov)
C. Bethoney, NYSDOH (charlotte.bethoney@health.ny.gov)
M. Cruden, NYSDEC (michael.cruden@dec.ny.gov)
S. Radon, NYSDEC, Region 9 (stanley.radon@dec.ny.gov)
S. Moeller, NYSDEC, Region 9 (steven.moeller@dec.ny.gov)

APPENDIX V

RESPONSIVENESS SUMMARY

APPENDIX V
RESPONSIVENESS SUMMARY

Table of Contents

Appendix V:	Introduction
	Summary of Community Relations Activities
	Summary of Comments and EPA Responses
Appendix V - Attachment 1	Proposed Plan
Appendix V - Attachment 2	Public Notice - Commencement of Public Comment Period
Appendix V - Attachment 3	August 8, 2023 Public Meeting Transcript
Appendix V - Attachment 4	Written Comments Submitted During Public Comment Period

INTRODUCTION

A responsiveness summary is required by the regulations promulgated under the Superfund statute. It provides a summary of comments received during the public comment period, as well as the responses of the U.S. Environmental Protection Agency (EPA) to those comments. All comments received were considered by EPA in its Record of Decision (ROD) regarding the selection of the fifth operable unit (OU5) remedy at the Olean Well Field Superfund Site (Site).

SUMMARY OF COMMUNITY RELATIONS ACTIVITIES

The Proposed Plan for OU5, attached hereto as Attachment 1, was released to the public on July 27, 2023, along with the Feasibility Study Investigation Report (FSIR) and Feasibility Study (FS), as well as other documents contained in the Administrative Record for the OU5 ROD. EPA's preferred remedy and the basis for that preference were identified in the Proposed Plan.

These documents, including the Proposed Plan, were made available to the public at information repositories maintained at the Olean Public Library; the EPA Region 2 Superfund Records Center in New York, New York; and on EPA's website for the Olean Well Field Superfund Site located at www.epa.gov/superfund/olean-wellfield.

A notice of the commencement of the public comment period, the public meeting date, a description of the preferred remedy, EPA contact information, and the availability of the above-referenced documents, attached hereto as Attachment 2, was published in the *Olean Times Herald*, a local newspaper, on July 27, 2023. The public comment period ran from July 27, 2023, to August 28, 2023.

EPA held a public meeting on August 8, 2023, at 6:00 P.M. at the Jamestown Community College TECH Building, 305 North Barry Street, Olean, New York to discuss the findings of the FSIR and FS Reports and to answer questions from the public about the remedial alternatives and the proposed remedy. A copy of the public meeting transcript is attached hereto as Attachment 3. Responses to the oral questions and comments received at the public meeting and in writing during the public comment period are included in this Responsiveness Summary.

SUMMARY OF COMMENTS AND EPA RESPONSES

A summary of the comments provided at the public meeting on August 8, 2023, as well as EPA's responses to those comments, are provided below. One written comment was received via email during the public comment period from an area resident. A copy of the email received is provided in Attachment 4 of this Responsiveness Summary.

Comment Summary

This section summarizes comments received from the public concerning OU5 of the Olean Well Field Site at the public meeting on August 8, 2023, as well as one comment via email, and EPA's responses.

Comment #1: An area resident commented that the Olean Tile property may be a source of contamination. The resident also noted a concern regarding the use of the word oversight in EPA's July 2023 community update flyer, stating their belief that the release of contamination to the environment by the PRPs was deliberate and not an oversight.

Response to Comment #1: The former Dal-Tile property (previously Olean Tile) and 13 other properties were evaluated as potential source areas in the early 1990s. Four of the 14 investigated source areas were identified as being sources of the groundwater contamination at the Site. While these previous investigations did not reveal the former Dal-Tile property as a source area, the former Dal-Tile property was included as part of the recent OU4 investigation due to its proximity to the AVX Property. While the OU4 investigation confirmed the presence of debris from tile manufacturing activities, the sampling results did not reveal the former Dal-Tile property as a source of VOC groundwater contamination.

Regarding the commenter's concern with EPA's reference to oversight in the July 2023 community update flyer, the commenter may have misinterpreted EPA's use of the term. EPA did not intend to imply that the release of contamination at the Site was not deliberate. Rather, the term in the flyer describes EPA's oversight of the work performed by PRPs at each of the source areas.

Comment #2: An area resident asked if EPA would notify the public of the issuance of the selected remedy.

Response to Comment #2: EPA will notify the public of the issuance of the OU5 Record of Decision (ROD), the document that memorializes the selection of a remedy for this OU.

Comment #3: An area resident asked when EPA would have a decision on the remedy.

Response to Comment #3: EPA typically issues RODs shortly after the close of the public comment period, which it has done for the OU5 ROD, of which this Responsiveness Summary is a part.

Comment #4: An area resident asked why no public officials were in attendance at the public meeting.

Response to Comment #4: Notification of the Proposed Plan's release, including the public meeting, was sent to Cattaraugus County and New York State officials, as well as the City of Olean mayor's office on July 27, 2023.

Comment #5: Two area residents requested sampling of the private well water at their properties. In addition, one of the residents, located to the northeast of and adjacent to the AVX Property, also requested sampling of the soil on their property.

Response to Comment #5: Based upon historic and current groundwater sampling results, there is no indication that the groundwater in the vicinity of these two residences has been impacted by Site-related contamination and therefore sampling of the two private wells is not warranted for purposes of the Superfund cleanup. EPA recommends contacting the Cattaraugus County Health Department or the New York State Department of Environmental Conservation to inquire regarding testing of potable water at a private property. Robert Ring with Cattaraugus County can be reached at rwring@cattco.org or 716-701-3437. Steve Moeller with NYSDEC can be reached at steven.moeller@dec.ny.gov or 716-851-7289.

Investigations conducted at the AVX Property have revealed contamination beneath the former AVX manufacturing building near the southern portion of the building, as well as in the southern portions of the AVX Property. Monitoring well AVX-8DR, located in the northeastern corner of the AVX Property, was installed in June 2003. While initial sampling results for this monitoring well revealed VOC contaminated groundwater, sampling conducted between 2003 and 2006 revealed gradually decreasing levels of VOCs until no concentrations were detected above their respective maximum contaminant levels for multiple sampling events. As a result, sampling of this monitoring well was discontinued. In addition, surface soil samples collected and analyzed in 2011 from the northeast portion of the AVX Property did not detect VOC contamination. Given the sampling results in the northeast corner of the AVX Property, additional off-property soil sampling is not necessary.

Comment #6: An area resident noted that the city water line was not extended to his property on Seneca Avenue and asked why it was not extended further.

Response to Comment #6: Pursuant to the 1985 OU1 ROD, work associated with the city water line extension was broken into four zones. The portion of Seneca Avenue referenced by the commenter was included as part of zone 3. For zones 1, 2, and 4, the city water line was extended enabling connections to each of the residents with private wells in those zones. For zone 3, residences were monitored quarterly until 1998, at which time monitoring was discontinued as no VOCs had been detected; since no VOCs were detected, it was determined that an extension to these residences was not warranted.

Comment #7: An area resident asked if stormwater drains near Olean Creek could get cleaned out to aid in the drainage of water.

Response to Comment #7: The clearing of debris from municipal storm drains to aid in surface water drainage cannot be addressed using Superfund authority. EPA's responsibilities at the Site relate to the VOC contaminated groundwater, soil, and the sources of the contamination. EPA recommends speaking to the local government about this issue.

Comment #8: An area resident asked about the status of the cleanup on the AVX Property, specifically the construction of the hydraulic trench.

Response to Comment #8: Construction of the remedy identified in the 2015 OU2 AVX ROD Amendment, including the hydraulic trench and treatment plant, was completed in January 2023. The remedy has been operating since construction was completed. EPA is currently reviewing periodic groundwater monitoring and treated effluent data that has been collected from the AVX Property to ensure the system is effectively treating the groundwater.

Comment #9: An area resident asked if the former canal located on the Alcas property had been tested for contamination. The resident stated that the canal is now filled in.

Response to Comment #9: While not related to the OU5 remedy, the following responds to this comment. Prior investigations of the Alcas Property do not specifically refer to a former canal. However, based on further details provided by the commenter after the public meeting ended, it is EPA's understanding that a former canal was located along the southern edge of the Alcas Property and that the main building there was built on a portion of the filled-in canal. The highest concentrations of contaminants detected on the Alcas Property were below the foundation of the main building and around the southeast corner of the main building. In addition, in September 2014, EPA issued a ROD for several parcels of land to the south of the Alcas Property and the former canal, that were determined to be impacted by contaminated groundwater from the Alcas Property, referred to as Parcel B. Implementation of the selected remedies addressing the contamination at the Alcas Property and Parcel B both began in 2020 and are ongoing. Refer to the 2014 OU2 Alcas ROD Amendment and OU3 Parcel B ROD for more information regarding these remedies.

ATTACHMENT A

PROPOSED PLAN

*Superfund Proposed Plan**U.S. Environmental Protection Agency, Region 2****Olean Well Field Superfund Site******Operable Unit 5*****Cattaraugus County, New York**

July 2023

EPA ANNOUNCES PROPOSED PLAN

This Proposed Plan describes the remedial alternatives considered to address soil contamination at a discrete area of the property located at 1695 Seneca Avenue, Olean, New York (AVX Property), which has been designated by EPA as Operable Unit (OU) 5 of the Olean Well Field Superfund Site (Site) in Cattaraugus County, New York and identifies the preferred remedial alternative with the rationale for this preference. For the purposes of this Proposed Plan, OU5 includes contaminated soil that is located beneath and near the footprint of a former manufacturing building located in the northern portion of the Historical Source Area¹ at the AVX Property. The AVX Property is one of four source areas at the Site. In prior EPA decision documents AVX is sometimes referred to as AVX Corporation.² A Site location map is provided as Figure 1.

The OU2 Record of Decision (ROD) was amended in 2015 as it related to AVX. The OU2 AVX ROD Amendment selected an interim remedy to address soil and groundwater at the AVX Property. An interim remedy was selected because a final remedy, requiring restoration of the City Aquifer, would not be possible until the soil under the active AVX manufacturing building became accessible and additional soil characterization and testing could be conducted. The OU2 AVX ROD Amendment specified, that in the event there was a change in use of the manufacturing building, a feasibility study would need to be performed to evaluate whether further action in the form of source control and/or restoration actions was necessary to achieve the OU2 ROD goal of aquifer restoration. Therefore, a feasibility study to determine a final remedy could not be completed until the AVX property was no longer operating as an

active manufacturing facility. In April 2018, AVX ceased operations at the facility and in 2020 the building was demolished. This allowed for additional characterization and the performance of a feasibility study for contaminated soil located beneath and near the footprint of the former manufacturing building. EPA has designated this portion of the Historical Source Area as OU5 at the Site.

The major components of the interim remedy selected by the OU2 ROD Amendment included: maintenance of existing exposure barriers (the building and paved areas) in the northern portion of the Historical Source Area and the vegetative cover in the drainage swale area (to address soil contamination); construction and operation of a hydraulic trench containment system to address groundwater in the Downgradient Till Unit; hydraulic pumping to contain groundwater in the City Aquifer; implementation of institutional controls; implementation of a long-term groundwater monitoring program; and development of a Site Management Plan (SMP) to provide for the proper management of the interim remedy post-construction. Refer to the OU2 ROD Amendment for a detailed description of the interim remedy.

The preferred remedy for OU5 includes the excavation of impacted soil located beneath and near the footprint of the former manufacturing building. In addition to identifying the preferred remedy to address contaminated soil located beneath and near the footprint of the former manufacturing building, once selected, the OU5 remedy in conjunction with the OU2 ROD Amendment will constitute the final remedy for the AVX Property.

¹ The remedy selected in a September 2015 Amendment to the Operable Unit Two Record of Decision (OU2 ROD Amendment) defined the Historical Source Area as generally consisting of soil and groundwater contamination in a shallow groundwater unit known as the Downgradient Till Unit beneath the former manufacturing building and the land at the southeast corner of the building immediately proximate thereto, including the shallow north-south trending drainage

swale that begins to the south of the building. The OU2 ROD Amendment provides further details regarding geologic and hydrogeologic conditions at the Site.

² In 2020, AVX Corporation (AVX) became a wholly owned subsidiary of KYOCERA Corporation. In 2021, AVX's name changed to KYOCERA AVX Components Corporation or KAVX. The owner of record of the property is still AVX.



This Proposed Plan was developed by the U.S. Environmental Protection Agency (EPA), the lead agency for the Site, in consultation with the New York State Department of Environmental Conservation (NYSDEC). EPA is issuing this Proposed Plan as part of its public participation responsibilities under Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, also known as Superfund), as amended, and Sections 300.430(f) and 300.435(c) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The nature and extent of contamination for OU5 at the Site and the remedial alternatives summarized in this Proposed Plan are more fully described in the Feasibility Study Investigation Report (FSIR), dated June 2022, and the Feasibility Study (FS) Report, dated July 2023, as well as other documents in the Administrative Record file for this remedy. EPA encourages the public to review these documents to gain a more comprehensive understanding of the Site, the Superfund activities that have been conducted, and the remedial alternative that is being proposed.

The purpose of this Proposed Plan is to inform the public of EPA's preferred remedy and to solicit public comments pertaining to all of the remedial alternatives evaluated for OU5, including the preferred remedy.

Changes to the preferred remedy, or a change from the preferred remedy to another remedial alternative described in this Proposed Plan, may be made if public comments or additional data indicate that such a change will result in a more appropriate remedial action. The final decision regarding the selected remedy will be made after EPA has taken into consideration all public comments. For this reason, EPA is soliciting public comments on all of the alternatives considered in the Proposed Plan and on the detailed analysis section of the FS Report because EPA may select an alternative other than the preferred alternative.

**MARK YOUR CALENDAR
PUBLIC COMMENT PERIOD:**

July 27, 2023 to August 28, 2023

EPA will accept written comments on the Proposed Plan during the public comment period.

IN PERSON PUBLIC MEETING:

August 8, 2023 at 6:00 pm

TECH Building, Mangano Reception Room, near the Cutco Theater, 305 North Barry Street, Cattaraugus County Campus of Jamestown Community College, Olean, New York

COMMUNITY ROLE IN SELECTION PROCESS

EPA relies on public input to ensure that the concerns of the community are considered in selecting an effective remedy for each Superfund site. To this end, this Proposed Plan has been made available to the public for a public comment period which begins on July 27, 2023 and concludes on August 28, 2023.

A public meeting will be held on August 8, 2023 to present the conclusions of the studies performed, to elaborate further on the reasons for recommending the preferred alternative, and to receive public comments.

Comments received at the public meeting, as well as written comments, will be documented in the Responsiveness Summary Section of the Record of Decision (ROD), the document which formalizes the selection of the remedy.

Written comments on the Proposed Plan should be addressed to:

Maeve Wurtz
Western New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 19th Floor
New York, New York 10007-1866
Telephone: (212) 637-4230
E-mail: wurtz.maeve@epa.gov

INFORMATION REPOSITORIES

Copies of the Proposed Plan and supporting documentation are available at the following information repositories.

Olean Public Library, located at Second and Laurens Streets Olean, New York
(716) 372-0200
Hours: Monday – Thursday, 9:00 AM – 9:00 PM
Friday and Saturday, 9:00 AM – 5:00 PM

USEPA – Region II
Superfund Records Center
290 Broadway, 18th Floor

New York, New York 10007
(212) 637-4308

EPA's website for the Olean Well Field Site:

www.epa.gov/superfund/olean-wellfield

SCOPE AND ROLE OF ACTION

Site remediation activities are sometimes segregated into different phases, or operable units (OUs), so that remediation of different, discrete environmental media or geographic areas of a site can proceed separately, whether sequentially or concurrently. EPA has designated five OUs for the Olean Well Field Site (refer to Figure 2) to address soil and groundwater contaminated with volatile organic compounds (VOCs).

On September 24, 1985, EPA signed a ROD for OU1, which called for, among other things, the treatment of the municipal supply well water and the extension of the public water supply to residents utilizing private wells.

On September 30, 1996, EPA signed a ROD for OU2. The four source areas targeted in the OU2 ROD were as follows: AVX Corporation (AVX) (currently owned by KYOCERA AVX Components Corporation ("KAVX") located at 1695 Seneca Avenue, Olean, New York); Alcas Cutlery Corporation (Alcas) (currently owned and operated by Cutco Corporation and located at 1116 East

State Street, Olean, New York); Loohn's Dry Cleaners and Launderers (Loohns) (currently a vacant lot located at 1713 East State Street, Olean, New York); and McGraw-Edison Company (McGraw) (currently operated by Cooper Power Systems, LLC, owned by Cooper Power Systems, Inc., and located at 1648 Dugan Road, Olean, New York).

On September 30, 2014, EPA amended the OU2 ROD to modify the selected remedy for the Alcas component of the OU2 ROD. The Alcas OU2 ROD Amendment addressed soil and groundwater contamination impacting the underlying aquifers, and also selected a remedy to address OU3 groundwater contamination. OU3 addresses groundwater contamination at an area south of the Alcas facility referred to as Parcel B.

On September 30, 2015, EPA again amended the OU2 ROD to modify the selected remedy for the AVX component of the OU2 ROD. The AVX OU2 ROD Amendment selected an interim action to address soil and groundwater contamination impacting the underlying aquifers until a final remedy for the AVX Property is implemented. The AVX OU2 ROD Amendment indicated that a change in the current use of the building in the future would trigger the performance of a feasibility study to evaluate source control and/or restoration actions, leading to the selection of a final remedy. In April 2018, AVX informed EPA that it intended to cease operations at its Olean Manufacturing facility.

On September 30, 2022 EPA signed a ROD for OU4. The OU4 ROD addressed VOCs in groundwater located at certain residential and commercial properties downgradient of the AVX Property and south of the Conrail railroad tracks.

This Proposed Plan concerns OU5, the final planned phase of response activities at the AVX Property, and addresses soil contamination located beneath and near to the former AVX manufacturing building in the northern portion of the Historical Source Area. Once selected, the OU5 remedy in conjunction with the OU2 ROD Amendment will constitute the final remedy for the AVX Property.

SITE BACKGROUND

The Site is located in the eastern portion of the City of Olean and western and northwestern portions of the towns of Olean and Portville in Cattaraugus County, New York. The Site is characterized by VOC-contaminated groundwater underlying the City of Olean, the Town of Olean and the Town of Portville, and by VOC-contaminated soil at certain locations in the City and Town of Olean. The Site is approximately 65 miles

southeast of Buffalo, New York, and seven miles north of the New York/Pennsylvania border.

The AVX Property is currently zoned for manufacturing use, and the areas immediately surrounding the Property are zoned for industrial, commercial, and residential uses. EPA expects that the land-use pattern at and surrounding OU5 of the Site will not change in the foreseeable future.

Beginning in the 1980s, several separate federal-, state- and Potentially Responsible Party (PRP)-led investigations were conducted to identify the sources of contamination to the municipal water supply wells and evaluate the nature and extent of groundwater contamination at the Site. The Site was included on the National Interim Priorities List, by publication in the Federal Register on October 23, 1981, and was included on the first National Priorities List on September 9, 1983. For more details regarding the results of the various investigations and subsequent actions taken to address Site-related contamination refer to the OU4 ROD.

According to EPA's EJSscreen tool, there are no demographic indicators for OU5 at the Site that would indicate a community with environmental justice concerns. Within and immediately near OU5, the national and State EJ index percentiles for all of the environmental and socioeconomic indicators are at or below the 52nd percentile. The proposed remedy is not anticipated to result in adverse impacts to environmental resources that would affect low income or minority populations living within the vicinity of OU5.

The following provides a summary of activities at the AVX Property, a source of groundwater contamination at the Site.

As mentioned previously, the remedy selected in the 1996 OU2 ROD addressed multiple sources of VOC contamination to groundwater at the Site. The major components of the selected remedy for AVX, one of the four sources targeted, included the following: excavation and removal of contaminated soil; off-Site low temperature desorption of soil contaminants, if necessary; upgradient and downgradient groundwater monitoring; implementation of groundwater treatment, if excavation and removal of the contaminated soil did not adequately improve the quality of the City Aquifer and if the property continued to affect the groundwater entering the municipal wells; and implementation of groundwater use restrictions.

AVX initiated the excavation of contaminated soil at its property in July 2000. Approximately 5,055 tons of

contaminated soil was excavated to a depth of approximately 10 feet below ground surface (bgs) and transported off-Site for disposal before work was halted. AVX could not excavate all of the contaminated soil because the material extended beyond the area identified as contaminated in the OU2 ROD to beneath the southeast corner of the manufacturing building, which was fully occupied with AVX's manufacturing operations. Further excavation had the potential to impact the structural integrity of the occupied building. As a result, the excavation area was backfilled pending further study. Further evaluations revealed significant unknown contamination extending under the building and that additional excavation and removal of all contaminated soil would result in significant disruption to and/or shutdown of the on-going operations.

Following the backfilling at the AVX Property, EPA directed AVX to conduct soil and groundwater sampling activities at the AVX Property and properties to the south as part of a multi-phase investigation to assess the conditions at these properties. Results from these studies indicated that significant previously unknown VOC contamination is present in both soil and groundwater.

As indicated previously, on September 30, 2015, EPA issued a ROD Amendment for OU2 relating to the AVX Property that addressed soil and groundwater contamination in the Historical Source Area, and groundwater contamination in the Downgradient Till Unit and City Aquifer (refer to the Site Geology and Hydrogeology section in the OU2 ROD Amendment for additional detail regarding geological and hydrogeologic conditions at the Site).

The Downgradient Till Unit component of the selected remedy involves the construction and operation of a hydraulic trench containment system involving a gravel trench coupled with active groundwater recovery and treatment to prevent migration of groundwater downgradient of the AVX Property. Construction of this component of the selected remedy was completed in January 2023.

The City Aquifer component of the selected remedy involves hydraulic pumping containment utilizing and maintaining an existing AVX Property production well (PW-1) as an active groundwater recovery system at a pumping rate that prevents further migration of contaminated groundwater within the City Aquifer. The AVX production well, in operation since 1959, continues to operate as part of the implementation of the AVX OU2 ROD Amendment selected remedy even though the plant closed down.

Soil Investigation Results from Previous Investigations at the AVX Property

Results of post-OU2 ROD investigations showed that VOC contamination in soil consists primarily of trichloroethene (TCE), 1,1,1-trichloroethane (1,1,1-TCA), tetrachloroethene (PCE), and the breakdown products cis-1,2-dichloroethene (cis-1,2-DCE), vinyl chloride, and 1,1-dichloroethane (1,1-DCA) with elevated concentrations of other VOCs, including toluene and xylenes.

As set forth in a January 29, 2013 FSIR performed after work was halted on the OU2 ROD remedy, high concentrations of VOCs have been observed in soil (up to 1,614 parts per million (ppm) of total VOCs) beneath the southeast corner of the former manufacturing building by a maintenance shop and a former solvent underground storage tank (both along the eastern edge of the manufacturing building), and in areas immediately to the south and north of the manufacturing building. Minimal detections of VOC contamination were found in soil south of the fenced area of the AVX Property.

Concentrations of VOCs observed in groundwater indicate that a groundwater plume of VOC contamination in the till unit originates from the Historical Source Area and extends through the undeveloped area to the southern property boundary and OU4.

OU5 Feasibility Study Investigation Report (FSIR)

While prior investigations have characterized the hydrogeology and the nature and extent of contaminants in the subsurface throughout much of the AVX Property, the demolition of the former manufacturing building in 2020, enabled the collection of soil and groundwater samples beneath and adjacent to the former structure. This additional soil characterization and testing were also necessary to support the evaluation of remedial alternatives for contaminated soil in and around the footprint of the former manufacturing building. The investigation activities were designed to:

- Define the lateral and vertical extent of contaminants in soil located beneath and near the footprint of the former manufacturing building within and near the northern portion of the Historical Source Area; and
- Characterize the hydrostratigraphic framework to better define the potential contaminant transport pathways within and near the source area.

A portion of the concrete slab of the former building was left in place and is currently acting as an exposure barrier to contaminated soil.

OU5 Soil Investigation Results

The first step of the soil characterization program included screening of near-surface soil/fill for the presence and magnitude of VOCs using a photoionization detector (PID). Information gathered using a PID is classified as screening level data and does not provide chemical specific information. Following the initial soil screening and preliminary surveying, whole core soil sampling (WCSS) and vertical aquifer profile (VAP) sampling was conducted. The locations of WCSS and VAP sampling were adjusted as needed based on access and the results of soil screening. A summary of the results of this work is presented in the following sections.

Soil Screening

The VOC contamination detected in soil consists primarily of TCE, 1,1,1-trichloroethane (1,1,1-TCA), PCE, and the breakdown products cis-1,2-DCE, vinyl chloride, 1,1-DCA, with elevated concentrations of other VOCs, including toluene and xylenes. 114 soil gas screening point locations were selected and organized in a grid layout approximately 25 feet apart, in and around the source area. For all locations and depths where soil gas could be drawn, the gas was pumped by and analyzed with a PID and data were recorded.

The highest concentrations of PID-measured VOCs were observed primarily outside of the footprint of the original building, which was constructed in 1950, with those elevated concentrations observed largely within the footprint of the historical Machine Shop/Maintenance area (constructed in 1978 and used as the building maintenance area), the Receiving Area, and the Chemical Storage area (both constructed in 2001). These levels ranged from 145 - 1,436 ppm. Some elevated PID-measured screening concentrations were also observed beneath adjacent areas within the southeastern corner of the footprint of the original building. These included one area historically noted as the Powder and Barrel Storage area but also on other maps noted as being used for waste storage. Some elevated PID-measured concentrations were also noted farther to the west beneath or near to the historical Tape and Reel Storage area. Refer to Appendix A in the 2023 FS Report for the layout of the former manufacturing building.

Soil Quality Characterization

Following completion of the soil screening activities, WCSS were collected by roto sonic drilling methods on a modified approximately 50-foot grid spacing at 40 locations. Approximately 300 soil samples were analyzed to better characterize the nature and extent of VOCs in soil, both saturated and unsaturated, within the source area. The results are summarized in Table 1 below. The data revealed that the highest mass of VOCs in soil is largely concentrated in areas predicted by the soil gas screening data, with some deviations. The highest concentrations were observed within the former footprint of the Machine Shop/Maintenance area, beneath the former Receiving area, and extending into the former chemical storage/waste storage area. Other notable areas of higher concentrations included the head of the drainage swale to the south of the facility fence, and near the southeastern corner of the former Stage 1 remedial action excavation area.

Table 1: Maximum Soil Contaminant Concentrations

Contaminant	Concentration (ppm)
1,1,1-TCA	226 DJ
TCE	1,500 DJ
PCE	723 DJ
<i>cis</i> -1,2-DCE	93.6 DJ
vinyl chloride	2.05 DJ
1,1-DCA	9.88 D

D = Identifies all compounds identified in the analysis at the secondary dilution factor.

J = The analyte was analyzed for and was positively identified, but the associated numerical value may not be consistent with the amount actually present in the environmental sample.

The concentrations of contaminants were observed to generally diminish with sample depth, though not consistently in all locations. Thin and discontinuous stringers of more permeable soil appear to have acted as pathways for contaminants to reach greater depths in certain locations.

Groundwater

During soil sampling, if retrieved core samples appeared to be both saturated and coarse-grained enough to produce water, VAP samples were collected. In total, only 13 of 40 borings contained enough water to facilitate VAP sampling, with only two of the 13 borings containing adequate water to sample at more than one depth.

Aside from some VAP groundwater sample locations with anomalously high COC concentrations, likely due to the presence of stringers containing more permeable material that can collect water containing high contaminant concentrations, the concentrations of contaminants in the VAP groundwater samples are relatively consistent with concentrations reported for groundwater sampled from monitoring wells during the semi-annual groundwater monitoring events which have been conducted since 2000.

Table 2: Maximum Groundwater Contaminant Concentrations

Contaminant	Concentration (ppm)
1,1,1-TCA	59 D
TCE	120 D
PCE	4
<i>cis</i> -1,2-DCE	17
vinyl chloride	1.8
1,1-DCA	12

D = Identifies all compounds identified in the analysis at the secondary dilution factor.

Refer to the OU5 Feasibility Study Investigation Report for additional details regarding the sampling results.

An assessment of natural attenuation conditions in groundwater was conducted as part of the 2015 OU2 ROD. Overall, the analyses indicated that some level of natural attenuation of Site-related contaminants is occurring. Groundwater samples revealed an increase in concentration of daughter products (e.g., *cis*-1,2-DCE and vinyl chloride) relative to the concentration of the parent compound (e.g., TCE). Reductive dechlorination is a natural attenuation process that can degrade chlorinated VOCs by transforming chlorinated compounds such as TCE to other compounds. Other natural attenuation processes can include dispersion, dilution, sorption, volatilization. The observed concentrations of contaminants in soil and groundwater near to the former AVX manufacturing building suggest that some level of natural attenuation is occurring.

Additionally, ethene and ethane were detected in groundwater monitoring well samples, demonstrating occurrence of the full sequence of reductive dechlorination. The monitored natural attenuation (MNA) assessment also included analysis of electron acceptors,

which showed moderate to strongly reducing conditions present.

The OU5 FS Report contains additional details, as does the full MNA Screening Analysis conducted in 2012. Both documents can be found in the Administrative Record file for the Site.

Principal Threat Waste

Principal threat wastes are considered source materials, i.e., materials that include or contain hazardous substances, pollutants or contaminants, such as DNAPL in soil, that act as a reservoir for migration of contamination to groundwater, surface water, or as a source for direct exposure. Principal threat wastes are those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained or would present a significant risk to human health or the environment in the event exposure should occur. The decision to treat these wastes is made on a site-specific basis through a detailed analysis of alternatives, using the remedy selection criteria which are described below. The manner in which principal threat wastes are addressed provides a basis for making a statutory finding that the remedy employs treatment as a principal element. Varying concentrations of VOCs were detected in soil samples collected during previous investigations from borings installed within the main manufacturing building at the AVX Property. Results from previous investigations showed concentrations of 1,1,1-TCA as high as 990 ppm and TCE as high as 650 ppm in subsurface soil, indicative of the presence of DNAPL in the soil zone at approximate depths of 16 feet and 6 feet, respectively, below the foundation of the main building.

WHAT IS A "PRINCIPAL THREAT"?

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes an expectation that EPA will use treatment to address the principal threats posed by a site wherever practicable (NCP Section 300.430(a)(1)(iii)(A)). The "principal threat" concept is applied to the characterization of "source materials" at a Superfund site. A source material is material that includes or contains hazardous substances, pollutants or contaminants that act as a reservoir for migration of contamination to ground water, surface water or air, or acts as a source for direct exposure. Contaminated ground water generally is not considered to be a source material; however, Non-Aqueous Phase Liquids (NAPLs) in ground water may be viewed as source material. Principal threat wastes are those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained or would present a significant risk to human health or the environment should exposure occur. The decision to treat these wastes is made on a site-specific basis through a detailed analysis of the alternatives using the nine remedy selection criteria. This analysis provides a basis for making a statutory finding that the remedy employs treatment as a principal element.

During the FSIR, concentrations of 1,1,1-TCA and TCE as high as 226 ppm and 1,500 ppm, respectively in subsurface soil were revealed. The FSIR results are indicative of the presence of DNAPL in the soil zone at an approximate depth of five feet below the foundation of the main building. These findings show the presence of "principal threat" wastes at the AVX Property. The proposed alternative for OU5 discussed in more detail below is expected to remove this contamination through excavation and off-Site disposal. Please refer to the text box entitled, "What is a Principal Threat" for more information on the principal threat concept.

RISK SUMMARY

As part of the 1996 OU2 ROD, a baseline human health risk assessment (HHRA) and a qualitative ecological risk assessment were conducted to estimate the risks and hazards associated with the current and future effects of contaminants on human health and the environment. A baseline risk assessment is an analysis of the potential adverse human health and ecological effects caused by hazardous substance exposure in the absence of any actions to control or mitigate these exposures under current and future site uses.

In the HHRA, cancer risk and noncancer health hazard estimates were based on reasonable maximum exposure (RME) scenarios. The estimates were developed by taking into account various health protective estimates about the concentrations, frequency and duration of an individual's exposure to chemicals selected as chemicals of potential concerns (COPCs), as well as the toxicity of these contaminants.

Human Health Risk Assessment

A four-step human health risk assessment (HHRA) process was used for assessing site-related cancer risks and noncancer health hazards related to soil at the AVX Property during the OU2 ROD (see box on next page "What is Risk and How is it Calculated"). The HHRA evaluated the potential health effects which would result from exposure to groundwater contamination through ingestion, dermal contact and inhalation of volatilized contaminants during showering. Risks associated with exposure to contaminants in surface and subsurface soil were calculated for the ingestion and inhalation of contaminants by construction workers. A residential exposure scenario for soil was not calculated because all of the properties studied during the OU2 RI/FS are zoned for industrial or commercial use. It is expected that the

AVX Property will continue to be used for commercial/industrial purposes in the future.

The results of the OU2 HHRA identified carcinogenic risk and/or noncarcinogenic hazards that were above the acceptable carcinogenic risk range of 1×10^{-6} to 1×10^{-4} and the noncarcinogenic hazard index (HI) of 1 for future exposure to groundwater. Carcinogenic risks and noncarcinogenic hazards for construction worker exposure to soil were within the risk range and below the noncarcinogenic HI threshold of 1. However, data collected at the time of 2015 ROD Amendment identified higher concentrations of VOCs in soil compared to those evaluated in the OU2 HHRA. Therefore, a qualitative determination was made in the 2015 ROD Amendment that the risks associated with soil in the OU2 HHRA could be underestimated. As discussed in more detail in the following sections, EPA has determined that the results of the OU2 HHRA and the risk evaluation from the 2015 ROD Amendment have not substantially changed. Therefore, an additional HHRA was not performed as part of OU5. Nevertheless, an updated qualitative analysis of the data to evaluate the risks associated with the elevated VOC concentrations detected in soil at the AVX Property is provided below.

Soil

The estimated total risks (5×10^{-5}) and hazards (HI=0.5) in soil included in the OU2 ROD Amendment for the AVX Property were primarily due to VOCs in the subsurface soil below the concrete slab floor of the building. It was also determined that contamination in the subsurface soil could serve as a source of continued groundwater contamination. Additional samples were collected as part of the OU5 FS. A comparison of the results for the primary contaminants is included in Table 3 below.

WHAT IS HUMAN HEALTH RISK AND HOW IS IT CALCULATED

Human Health Risk Assessment: A Superfund baseline human health risk assessment is an analysis of the potential adverse health effects caused by hazardous substance releases from a site in the absence of any actions to control or mitigate these releases under current- and anticipated future-land uses. A four- step process is utilized for assessing site-related human health risks for reasonable maximum exposure scenarios.

Hazard Identification: In this step, the chemicals of potential concern (COPCs) at the site in various media (i.e., soil, groundwater, surface water, and air) are identified based on such factors as toxicity, frequency of occurrence, and fate and transport of the contaminants in the environment, concentrations of the contaminants in specific media, mobility, persistence, and bioaccumulation.

Exposure Assessment: In this step, the different exposure pathways through which people might be exposed to the contaminants in air, water, soil, etc. that were identified in the previous step are evaluated. Examples of exposure pathways include incidental ingestion of and dermal contact with contaminated soil and ingestion of and dermal contact with contaminated groundwater. Factors relating to the exposure assessment include, but are not limited to, the concentrations in specific media that people might be exposed to and the frequency and duration of that exposure. Using these factors, a “reasonable maximum exposure” scenario, which portrays the highest level of human exposure that could reasonably be expected to occur, is calculated.

Toxicity Assessment: In this step, the types of adverse health effects associated with chemical exposures, and the relationship between magnitude of exposure and severity of adverse effects are determined. Potential health effects are chemical-specific and may include the risk of developing cancer over a lifetime or other noncancer health hazards, such as changes in the normal functions of organs within the body (e.g., changes in the effectiveness of the immune system). Some chemicals are capable of causing both cancer and noncancer health hazards.

Risk Characterization: This step summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of site risks for all COPCs. Exposures are evaluated based on the potential risk of developing cancer and the potential for noncancer health hazards. The likelihood of an individual developing cancer is expressed as a probability. For example, a 10^{-4} cancer risk means a “one-in-ten-thousand excess cancer risk”; or one additional cancer may be seen in a population of 10,000 people as a result of exposure to Site contaminants under the conditions identified in the Exposure Assessment. Current Superfund regulations for exposures identify the range for determining whether remedial action is necessary as an individual excess lifetime cancer risk of 10^{-4} to 10^{-6} , corresponding to a one-in-ten-thousand to a one-in-a-million excess cancer risk. For noncancer health effects, a “hazard index” (HI) is calculated. The key concept for a noncancer HI is that a “threshold” (measured as an HI of less than or equal to 1) exists below which noncancer health hazards are not expected to occur. The goal of protection is 10^{-6} for cancer risk and an HI of 1 for a noncancer health hazard. Chemicals that exceed a 10^{-4} cancer risk or an HI of 1 are typically those that will require remedial action at a site and are referred to as chemicals of concern, or COCs, in the final remedial decision document or Record of Decision.

Table 3. Primary contaminant results in subsurface soil at the AVX Property.

Chemicals	OU2 RI (ppm)	OU5 FS (ppm)
1,1,1-TCA	990	226 DJ
PCE	270	723 DJ
TCE	650	1,500 DJ
cis-1,2 DCE	65	93.6 DJ
Vinyl Chloride	ND	2.05 DJ

ND – Non-Detect

D – Indicates compounds identified in the secondary dilution factor

J – Estimated value

The maximum results of the soil samples collected during the OU5 FS were either higher than those identified in the OU2 RI or are within the same order of magnitude (i.e., 1,1,1-TCA). Notably, the maximum concentrations of PCE and TCE during the OU5 FFS were over two times greater than the OU2 RI. Therefore, EPA has determined that the risk conclusions presented in the OU2 ROD Amendment have not substantially changed and could be underestimated. Additionally, groundwater on the Site continues to exceed drinking water standards from impacts from contaminated soil.

Ecological Risk Assessment

The AVX Property is approximately 18.5 acres in size and currently includes an open area with bare soil due to the recent removal of the former AVX building. Wetlands and a wooded area are located south of the former building area, which remains fenced. The fenced portion of the site that formerly comprised the AVX building does not currently provide habitat that could potentially support populations of indigenous wildlife receptor species. Therefore, there are no ecological risks currently recognized within this area. For the area outside of the fence, which includes the wooded area and wetland area, a qualitative ecological risk assessment was conducted as part of the OU2 ROD to determine if contamination present at the AVX Property was impacting the wooded or wetland area. Given that the potential source of contamination in the wooded and wetland area would be contaminated groundwater discharging to the sediments, sediment samples were collected from the wetlands. Analysis of the samples did not reveal any VOC contamination. Several semi-volatile organic compounds (SVOCs) were detected but were not attributed to the AVX Property. Based on this evaluation, it was

determined that there is not a completed exposure pathway from the AVX property to the wooded or wetland areas. Since the levels of contamination in groundwater at the AVX property have remained similar, or have declined, this assumption is still considered valid.

Based on the results of the data collected to support the OU5 FFS, it is EPA's current judgment that the Preferred Alternative identified in this Proposed Plan is necessary to protect public health, welfare and the environment from actual or threatened releases of hazardous substances.

REMEDIAL ACTION OBJECTIVES

Remedial action objectives (RAOs) are specific goals to protect human health and the environment. These objectives are based on available information and standards, such as applicable or relevant and appropriate requirements (ARARs), to-be-considered (TBC) guidance, and site-specific risk-based levels.

The followings RAOs have been established for OU5 of the Site:

- Reduce the migration of VOC contaminants in soil to groundwater.
- Eliminate the potential for human exposure to Site contaminants via contact with soil concentrations above NYSDEC soil cleanup objectives for commercial properties.

The RAOs established in the OU2 ROD Amendment for groundwater and the drainage swale remain the same.

The soil preliminary remediation goals established for OU5 COPCs are identified in Table 4.

Table 4: Preliminary Remediation Goals for Soil

Chemicals of Potential Concern (COPCs)	Soil Remediation Goals (ppm)*
TCE	.47
cis-1,2-DCE	.25
vinyl chloride	.02
1,1,1-TCA	.68
1,2-DCA	0.02
Trans-1,2-dichloroethene	.19
PCE	1.3
Toluene	0.7
Xylene	1.6
1,4-dioxane	0.1

* NYSDEC SCOs [6 NYCRR Section 375-6.5] are based on the protection of groundwater.

These PRGs are based on the protection of groundwater and are lower than the NYSDEC soil cleanup objectives for commercial properties. These PRGs would therefore be protective of commercial workers.

SUMMARY OF REMEDIAL ALTERNATIVES

Section 121(b)(1) of CERCLA, 42 U.S.C. §9621(b)(1), mandates that remedial actions must be protective of human health and the environment, cost-effective, comply with ARARs, and utilize permanent solutions and alternative treatment technologies or resource recovery alternatives to the maximum extent practicable. Section 121(b)(1) also establishes a preference for remedial actions that employ, as a principal element, treatment to reduce permanently and significantly the volume, toxicity, or mobility of the hazardous substances, pollutants, and contaminants at a site. Section 121(d) further specifies that a remedial action must attain a level or standard of control of the hazardous substances, pollutants, and contaminants that at least attains ARARs under federal and state laws, unless a waiver can be justified pursuant to Section 121(d)(4) of CERCLA, 42 U.S.C. §9621(d)(4).

Since principal threat wastes are associated with OU5, treatment of the contaminated soil was considered as a principal element of some of the alternatives developed for OU5.

Detailed descriptions of the remedial alternatives for addressing the contamination associated with OU5 of the Site can be found in the OU5 FS Report, dated July 2023.

For cost-estimating and planning purposes, the FS made certain assumptions regarding the depth of the water table to distinguish between saturated and unsaturated soil and estimated an elevation of 1,430 ft above mean sea level (amsl) as the depth to the water table. While the FS assumed that unsaturated contaminated soils would be addressed under the active remedial alternatives, as part of the remedial design, further evaluation would be conducted to refine the depth of active remediation. Additional active remediation may be performed below the water table to address saturated soil with elevated concentrations of COPCs, which would have the incidental effect of improving remediation timeframes for groundwater. Additional soil sampling would also be conducted during the design, to further refine the extent of contamination. During the performance of the FSIR, analysis of soil samples did not include 1,4-dioxane. Given the presence of elevated concentrations of 1,4-dioxane in groundwater, additional soil sampling would

be performed for 1,4-dioxane analysis during the remedial design.

The construction time for each alternative reflects only the actual time required to construct or implement the action and does not include the time required to design the remedy, negotiate the performance of the remedy with any potentially responsible parties, or procure contracts for design and construction.

Common Elements

Each of the alternatives address unsaturated contaminated soil located beneath and near the footprint of the former manufacturing building in the northern portion of the Historical Source Area.

Until a final remedy for the AVX Property is selected, the OU2 Amended Remedy requires implementation of institutional controls and development of a Site management plan (SMP) to provide for the proper operation and maintenance (O&M) of the remedy for the AVX Property post-construction. The ICs selected by the OU2 Amended ROD would continue to apply to the AVX Property and as such would apply to each of the alternatives evaluated for OU5. Implementation of ICs and the SMP are ongoing.

Additionally, because the OU2 amended remedy will result in hazardous substances, pollutants, or contaminants remaining in and around the drainage swale area at the AVX Property above levels that would otherwise allow for unlimited use and unrestricted exposure, pursuant to Section 121(c) of CERCLA, statutory reviews will be conducted no less often than once every five years to ensure that the remedy remains protective of human health and environment.

Alternative 1: No Action

The NCP requires that a “No Action” alternative be used as a baseline for comparing other remedial alternatives. Under this alternative, there would be no remedial actions actively conducted at OU5 to control or remove soil contaminants. This alternative also does not include monitoring or institutional controls.

<i>Capital Cost:</i>	\$0
<i>Periodic Costs:</i>	\$0
<i>Present-Worth Cost:</i>	\$0
<i>Construction Time:</i>	Not Applicable

Alternative 2: Long-Term Monitoring

This alternative would rely on long-term monitoring of contaminant concentrations in soil to ensure concentrations are decreasing. As discussed above, reductions in contaminant concentrations in groundwater are occurring to limited extent already from various naturally occurring physical, chemical, and biological processes. These processes occur naturally, in-situ, and act to decrease the mass or concentration of contaminants in the subsurface. Only non-augmented natural processes would be relied upon under this alternative. In addition, existing surface covers (concrete slab floor, pavement, and vegetative cover) would be maintained to control potential leaching of contaminants in soil to groundwater and prevent exposure.

For cost-estimating and planning purposes, periodic monitoring of four newly installed groundwater monitoring wells would be conducted to track attenuation of contaminants immediately beneath and/or downgradient of the unsaturated soil source.

<i>Capital Cost:</i>	\$44,000
<i>Periodic Costs:</i>	\$567,000
<i>Present-Worth Cost:</i>	\$291,000
<i>Construction Time:</i>	1 month

Alternative 3: Excavation

The major components of the soil excavation alternative are demolition and removal of the existing concrete slab floor and foundation supports, excavation of impacted unsaturated soil located beneath and near the footprint of the former manufacturing building, off-Site transportation and disposal of excavated material, and restoration with imported clean fill material.

Excavation areas would be restored with imported clean fill material to match the previously existing contours and grades. Imported clean fill material would meet NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation for imported fill or soil at commercial or industrial properties. Surface restoration details would be developed during the remedial design.

For cost estimating and planning purposes, the conceptual design estimates 5,500 cubic yards (cy) of soil requiring excavation and off-Site transportation for disposal as non-hazardous waste at a solid waste landfill. Rainwater/surface water that accumulates in, and is then removed from, any excavation areas would be temporarily containerized onsite (e.g., in 21,000-gallon tanks). It is anticipated that any water that accumulates and is removed from the excavation would be treated by

the groundwater treatment system at the AVX Property prior to discharge to the City of Olean sewer system.

<i>Capital Cost:</i>	\$2,228,000
<i>Periodic Costs:</i>	\$450,000
<i>Present-Worth Cost:</i>	\$2,414,000
<i>Construction Time:</i>	4 months

Alternative 4: In-Situ Soil Solidification

The major components of the In-Situ Soil Solidification (ISS) alternative include the demolition and removal of the existing concrete slab floor and foundation supports, excavation and removal of the asphalt paved areas to establish a level working surface for the ISS mixing equipment, construction of a management area adjacent to the ISS target areas to accommodate bulk soil that would swell as a result of the soil mixing process and amendment addition.

Solidification refers to a cleanup method that prevents or slows the release of harmful chemicals from contaminated soil. These methods usually do not destroy the contaminants. Instead, they keep them from “leaching” above safe levels into the surrounding environment. Solidification binds the waste in a solid block of material and traps it in place, using a binding agent. This block is also less permeable to water than the waste.

During the FSIR, a laboratory bench-scale ISS treatability study was conducted with soil from the AVX Property to identify the optimal percentage of reagents, dosing requirements, and effectiveness. This treatability study investigated the ability of (Portland Cement) (PC) and blast furnace slag (BFS), as well as zero-valent iron (ZVI), to reduce the leaching potential of contaminants. Based on the results, for cost-estimating and planning purposes, the conceptual design estimates approximately 5,500 cy of soil would be mixed with a blend of 2.5% PC and 4.5% ground-granulated BFS, with a water-to-reagent ratio of 4.5 (grams of water to grams of reagent) to solidify contaminants in-place, creating a low-permeability monolith.

The conceptual design estimates that a three-foot-thick cover would be designed to maintain the ISS-treated material below the frost line and to promote stormwater drainage away from the treatment zone. The protective cover would consist of a non-woven geotextile demarcation fabric, 2.5 to 3 feet of reuse soil, and approximately six inches of gravel at the surface for erosion protection.

It has been estimated that approximately 3,755 cy of non-impacted soil would be excavated to create the management area and would be used post-ISS construction for installation of a three-foot-thick cover over both the ISS treatment and management areas.

Under this alternative, long term monitoring would be conducted to evaluate the long-term effectiveness and permanence of the solidified mass.

<i>Capital Cost:</i>	\$2,715,000
<i>Periodic Costs:</i>	\$450,000
<i>Present-Worth Cost:</i>	\$2,901,000
<i>Construction Time:</i>	3.5 months

Alternative 5: In-Situ Thermal Remediation

This remedial alternative combines in-situ thermal remediation (ISTR) with a system to address vapor management within and around areas with the highest concentration of contaminants.

In-situ thermal treatment methods move or “mobilize” harmful chemicals in soil using heat. The chemicals move through soil toward wells where they are collected and piped to the ground surface to be treated using ex-situ cleanup methods. For cost estimating and planning purposes, the conceptual design assumes an ex-situ approach for vapor management composed of cooling, phase separation, air stripping, liquid-phase GAC, and vapor-phase granular-activated carbon following. If some water is encountered, multi-phase extraction (MPE) would be utilized.

Electrical resistance heating (ERH) and thermal conduction heating (TCH) were determined, based on their effectiveness for treating lower-permeability till with similar soil electrical properties, to be the most applicable ISTR technologies for source removal within the lower-permeability till unit at OU5. For cost estimating purposes, ERH was assumed for the development of this alternative.

Preliminary ERH layouts were developed using a regular 19-foot triangular grid pattern for the electrodes, with vertical MPE wells and horizontal vapor management wells located at the centroids between adjacent electrodes. Distributed temperature sensor strings would be used for performance monitoring. A thermally insulating vapor cap would be constructed to provide a no-flow barrier at the surface, limit heat losses to ground surface, and minimize the potential for recondensation of vapors near ground surface.

<i>Capital Cost:</i>	\$3,395,000
<i>Periodic Costs:</i>	\$450,000
<i>Present-Worth Cost:</i>	\$3,581,000
<i>Construction Time:</i>	6 months

EVALUATION OF ALTERNATIVES

In evaluating the remedial alternatives, each alternative is assessed against nine evaluation criteria set forth in the NCP namely, overall protection of human health and the environment, compliance with ARARs, long-term effectiveness and permanence, reduction of toxicity, mobility, or volume through treatment, short-term effectiveness, implementability, cost, and state and community acceptance. Refer to the table below for a more detailed description of the evaluation criteria.

This section of the Proposed Plan summarizes the evaluation of the relative performance of each alternative against the nine criteria, noting how each compare to the others under consideration. The detailed analysis of alternatives can be found in the FS Report.

Overall Protection of Human Health and the Environment

All of the alternatives except Alternative 1 (No Action) would provide adequate protection of human health and the environment by eliminating, reducing, or controlling risk through off-site disposal, in-situ treatment, engineering controls, and/or institutional controls. Alternative 2 (Long-Term Monitoring) would provide some protection from future exposure to contaminated soil through the maintenance of the existing cover material (concrete slab floor, pavement, and vegetative cover), and through institutional controls such as land-use restrictions. However, contaminated soil would remain in place above the cleanup goals.

Alternative 3 (Excavation) would permanently remove unsaturated soil with VOCs above the PRGs for off-Site disposal while Alternative 5 (In-Situ Thermal Remediation) would remove VOCs through in-situ treatment and ex-situ recovery for on-Site treatment. Under Alternative 4 (In-Situ Soil Solidification) contaminated soil would not be destroyed, but rather would be treated in-situ to bind the contaminants to the material and prevent or slow the release of contaminants from soil.

Alternatives 2, 3, 4, and 5 would achieve the RAOs. Alternative 1 (No Action) would not achieve the RAOs. Because Alternative 1 is not protective of human health

and the environment, it is not further discussed under the remaining evaluation criteria.

Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)

EPA has identified NYSDEC's soil cleanup objectives for the protection of groundwater (6 NYCRR § 375-6.5) as an ARAR, a "to-be considered," or other guidance to address contaminated soil at the Site. Refer to Table 4 for the preliminary remediation goals for soil.

Under Alternatives 2 through 5, it is intended that ARARs would be achieved. Although soil sampling results indicate that biodegradation of VOC contaminants may be occurring at the AVX Property, given the elevated concentrations of contaminants in soil, achievement of the preliminary remediation goals under Alternative 2 may not be reached for many years. Under Alternative 2, elevated concentrations of contaminants in soil, would result in the prolonged presence of contamination in the unsaturated soil which would continue to act as a source to groundwater contamination and likely prevent or extend the attainment of the remediation goals established in the OU2 ROD Amendment.

Alternatives 2 through 4 would comply with location-specific ARARs, such as the Clean Water Act to mitigate adverse impacts on protected wetlands. Alternatives 2 through 4 would comply with action-specific ARARs, such as hazardous waste management regulations that manage remediation derived waste.

Chemical-, location-, and action-specific ARARs are identified in the July 2023 FS Report, Tables 3-1, 3-2 and 3-3.

EVALUATION CRITERIA FOR SUPERFUND REMEDIAL ALTERNATIVES

Overall Protectiveness of Human Health and the Environment evaluates whether and how an alternative eliminates, reduces, or controls threats to public health and the environment through institutional controls, engineering controls, or treatment.

Compliance with Applicable or Relevant and Appropriate Requirements (ARARs) evaluates whether the alternative meets federal and state environmental statutes, regulations, and other requirements that pertain to the Site, or whether a waiver is justified.

Long-term Effectiveness and Permanence considers the ability of an alternative to maintain protection of human health and the environment over time.

Reduction of Toxicity, Mobility, or Volume (TMV) of Contaminants through Treatment evaluates an alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contamination present.

Short-term Effectiveness considers the length of time needed to implement an alternative and the risks the alternative poses to workers, the community, and the environment during implementation.

Implementability considers the technical and administrative feasibility of implementing the alternative, including factors such as the relative availability of goods and services.

Cost includes estimated capital and annual operations and maintenance costs, as well as present worth cost. Present worth cost is the total cost of an alternative over time in terms of today's dollar value. Cost estimates are expected to be accurate within a range of +50 to -30 percent.

State/Support Agency Acceptance considers whether the State agrees with EPA's analyses and recommendations, as described in the RI/FS and Proposed Plan.

Community Acceptance considers whether the local community agrees with EPA's analyses and preferred alternative. Comments received on the Proposed Plan are an important indicator of community acceptance.

Long-Term Effectiveness and Permanence

Alternative 2 relies on naturally occurring in-situ processes to decrease the concentrations of contaminants over time. While degradation has been shown to occur in soil and groundwater at the AVX Property, given the elevated concentrations of contaminants present, the timeframe to achieve the cleanup levels, long-term protectiveness is not anticipated to occur in a reasonable timeframe. Alternatives 3 through 5 are all effective alternatives in the long-term because they would remove or solidify the contaminants in unsaturated soil located beneath and near the footprint of the former manufacturing building, through physical methods (excavation, Alternative 3), solidification (Alternative 4), and volatilization via thermal treatment followed by soil vapor extraction (Alternative 5). Alternatives 2 through 5 would permanently reduce accessible contaminant concentrations over time, while Alternatives 3, 4, and 5 would achieve permanent contaminant concentration reduction or immobilization more quickly.

Potential Site impacts from climate change have been assessed, and the future performance of the remedy is currently not at risk due to the expected effects of climate change in the region and near the Site.

Reduction of Toxicity, Mobility, or Volume

Alternatives 3 and 5 reduce toxicity and volume of contaminants in soil located beneath and near the footprint of the former manufacturing building. Alternative 4 substantially reduces the mobility of contaminants in soil by solidifying them in a solid block of material. Alternative 2 would reduce the toxicity and volume of contaminants in soil over time, however, the timeframe to achieve the cleanup levels and long-term protectiveness may not be reached for many years. Under Alternative 3, the mobility, volume, and exposure to contaminants would be reduced through the removal and disposal of the soil at an approved off-Site facility. Furthermore, although currently not anticipated, off-site treatment, if required, would reduce the toxicity of the contaminated soil prior to disposal. Alternatives 4 and 5 provide active in-situ treatment of contaminants in soil that would greatly reduce the mobility of these contaminants. Alternative 5 would also reduce the volume and toxicity of contaminants because it destroys the contaminants rather than solidifying them in-place.

Short-Term Effectiveness

Alternatives 2 through 5 may have short-term impacts to remediation workers, the public, and the environment

during implementation. Alternative 2 could have minimal adverse short-term impacts since work is limited to the installation of four additional groundwater monitoring wells associated with the groundwater sampling program. Occupational health and safety controls would be implemented to mitigate exposure risks. Alternative 2 has an estimated implementation timeframe of 30 years, although it is unclear whether RAOs would be reached within 30 years.

Under Alternative 3, the potential risks to workers, the public, or the environment would increase relative to Alternative 2 due to substantial soil disturbance and offsite transportation of soil, although these activities would be managed through engineering controls, health and safety procedures, and worker training. The implementation timeframe for Alternative 3 is estimated to be approximately 4 months.

Under Alternative 4, the potential risks to workers, the public, or the environment would increase relative to Alternative 2, due to implementation of ISS although these activities would be managed through engineering controls, health and safety procedures, and worker training. The implementation timeframe for Alternative 4 is estimated to be approximately 3.5 months.

Installation of the electrodes and associated SVE and MPE wells for Alternative 5 may result in short-term exposure risks to workers, the public, or the environment, but these potential risks are likely lower than those from Alternatives 3 and 4 because there will be less physical disturbance and movement of soil. These potential risks would be managed through engineering controls, vapor monitoring and mitigation, health and safety procedures, and worker training. The implementation timeframe for Alternative 5 is estimated to be approximately 6 months.

Based on the information contained above, Alternative 2 presents the least short-term impacts. Alternative 5, while presenting more short-term impacts than Alternative 2, has less short-term impacts as compared to Alternatives 3 and 4.

Implementability

All technologies under active Alternatives 3, 4, and 5 are established technologies with commercially available equipment and are implementable.

Alternative 5 would be the most difficult to implement, as it requires the most specialized equipment with the installation of electrodes, wells for vapor management, and MPE wells (as necessary), temperature monitoring

points, a power delivery system, and waste stream controls. However, the equipment is conventional and readily available.

Alternatives 3 and 4 would be easier to implement than Alternative 5, but more difficult than Alternative 2, as Alternative 2 is not an active remedy.

Cost

The estimated capital, O&M, and present worth costs are presented in Table 5 below and discussed in detail in the FS Report. The cost estimates are based on the best available information. Alternative 1: No Action has no cost because no activities are implemented. The highest present worth cost alternative is Alternative 5, at \$3.58 million.

Table 5: Summary of Costs

Alternative	Capital Cost	O&M Costs	Present Worth*
Alternative 2	\$44,000	\$567,000	\$291,000
Alternative 3	\$2,228,000	\$450,000	\$2,414,000
Alternative 4	\$2,715,000	\$450,000	\$2,901,000
Alternative 5	\$3,395,000	\$450,000	\$3,581,000

* 30-year present worth calculations are based on a 7% discount rate.

State/Support Agency Acceptance

NYSDEC has consulted with NYSDOH and concurs with the preferred alternative.

Community Acceptance

Community acceptance of the preferred alternative will be evaluated after the public comment period ends and will be described in the Responsiveness Summary section of the Record of Decision for OU5.

PREFERRED REMEDY AND BASIS FOR PREFERENCE

Based upon an evaluation of the remedial alternatives, EPA, in consultation with NYSDEC, proposes Alternative 3, Excavation, as the preferred remedy for OU5.

The preferred alternative has as its key components: 1) demolition and removal of the existing concrete slab floor and foundation supports; 2) excavation of contaminated

unsaturated soil located beneath and near the footprint of the former manufacturing building in the northern portion of the Historical Source Area; 3) off-Site transportation and disposal of excavated material; and 4) restoration with imported clean fill material. Refer to Figure 3 for the conceptual design depicting the estimated excavation area based on the results of the FSIR.

As part of the remedial design, further evaluations would be conducted to define the depth of the water table and resulting excavation. If determined practicable, additional limited active remediation could be performed below the water table to address saturated soil in an effort to improve remediation timeframes for groundwater. During the remedial design, additional soil sampling would also be conducted to further evaluate the extent of contamination, including 1,4-dioxane.

The environmental benefits of the preferred remedy may be enhanced by employing design technologies and practices that are sustainable in accordance with EPA Region 2's Clean and Green Energy Policy.³ During the remedial design, green remediation concepts, including the use of low-sulfur vehicles and the location of the landfill that would receive the excavated soil in an effort to reduce truck trips, would be considered.

The total estimated present-worth cost for the preferred alternative is \$2,414,000. This is an engineering cost estimate that is expected to be within the range of plus 50 percent to minus 30 percent of the actual project cost. Further detail on the cost is presented in Appendix C of the FS Report.

This proposed OU5 remedy addressing contaminated soil located beneath and near the footprint of the former manufacturing building, along with the remedy selected in the OU2 ROD Amendment addressing soil in the drainage swale area and groundwater, would constitute the final remedy for the AVX Property.

The ICs selected in the OU2 Amended ROD continue to apply to the AVX Property and as such would apply to the preferred remedy. Because the OU2 amended remedy will result in hazardous substances, pollutants, or contaminants remaining in and around the drainage swale area at the AVX Property above levels that would otherwise allow for unlimited use and unrestricted exposure, pursuant to Section 121(c) of CERCLA, statutory reviews will be conducted no less often than

³ See <http://www.epa.gov/greenercleanups/epa-region-2-clean-and-green-policy> and

http://www.dec.ny.gov/docs/remediation_hudson_pdf/der31.pdf

once every five years to ensure that the remedy remains protective of human health and environment.

Basis for the Remedy Preference

While Alternatives 3: Excavation, Alternative 4: In-Situ Soil Solidification and Alternative 5: In-Situ Thermal Remediation all use proven technologies to actively treat VOC-contaminated soil in OU5, Alternative 3 would permanently remove the contaminated soil located beneath and near the footprint of the former manufacturing building in a relatively short implementation timeframe. Alternative 3 is also comparatively easier to implement than Alternatives 4 and 5 and uses conventional construction equipment.

Based upon the information currently available, the preferred alternative (Alternative 3, Excavation) meets the threshold criteria and provides the best balance of tradeoffs compared to the other alternatives with respect to the balancing criteria. The EPA expects the preferred alternative to satisfy the following statutory requirements of Section 121(b) of CERCLA: 1) the proposed remedy is protective of human health and the environment; 2) it complies with ARARs; 3) it is cost effective; and 4) it utilizes permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. Although it is not currently anticipated, if necessary, in order to meet the requirements of the disposal facilities, contaminated material would be treated prior to land disposal and only under such circumstances would the preferred alternative partially satisfy the preference for treatment. With respect to the two modifying criteria of the comparative analysis, state acceptance and community acceptance, NYSDEC concurs with the preferred alternative, and community acceptance will be evaluated upon the close of the public comment period.

Figure 1: Site Location Map

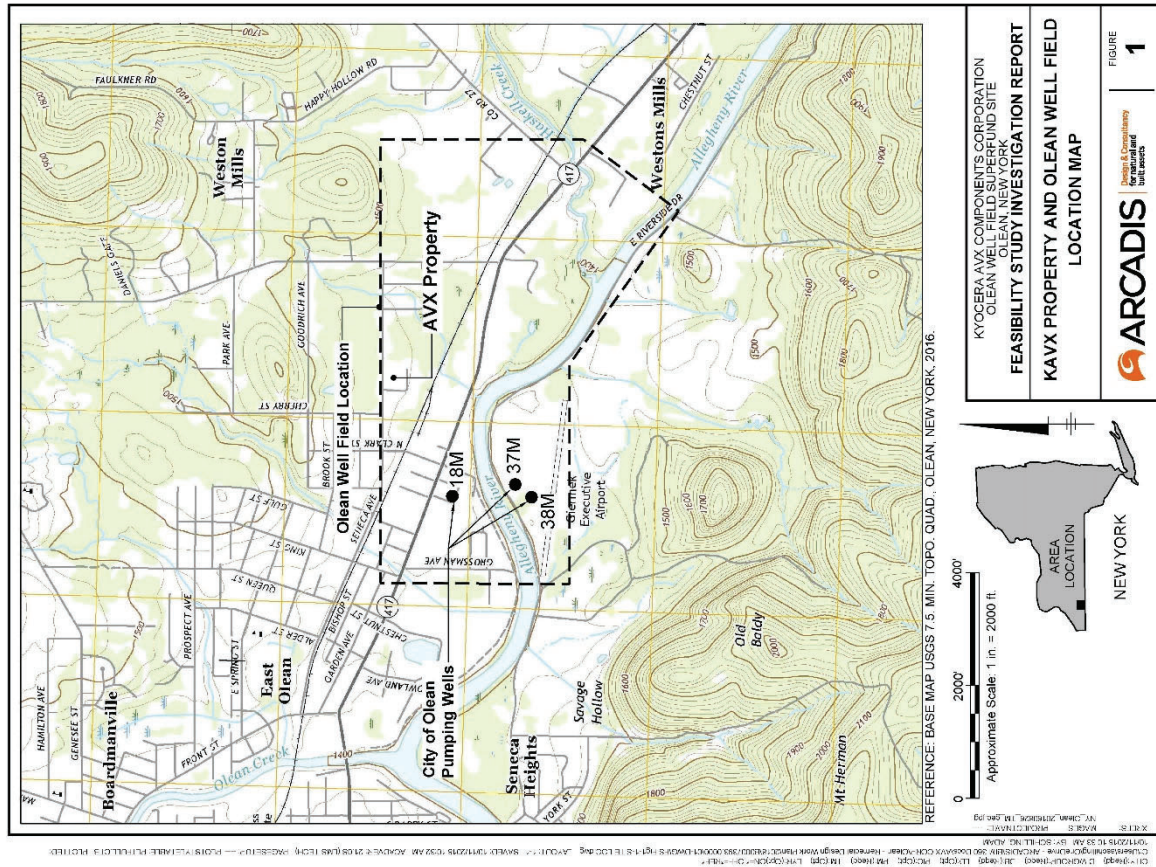


Figure 2: Operable Units

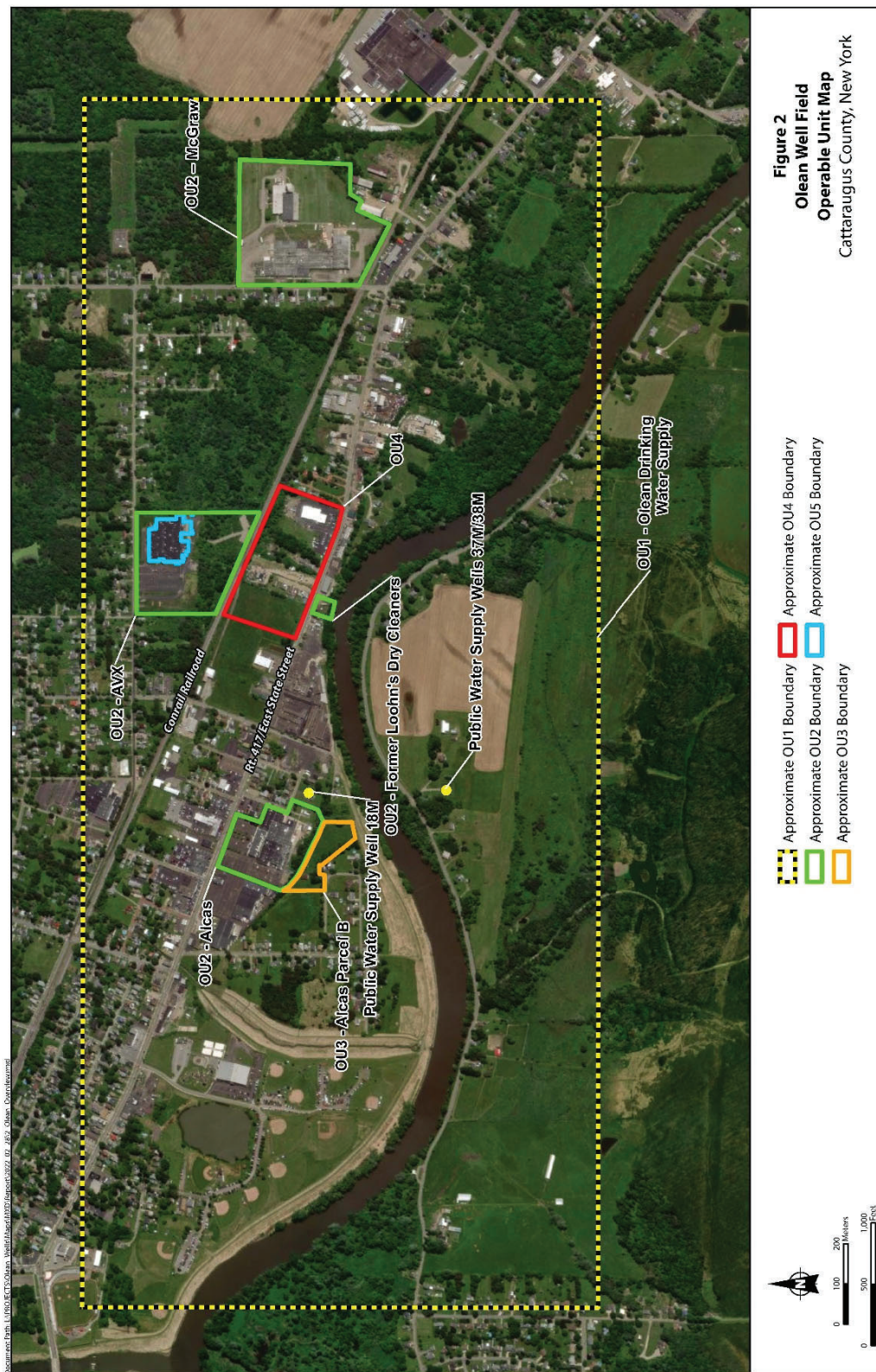
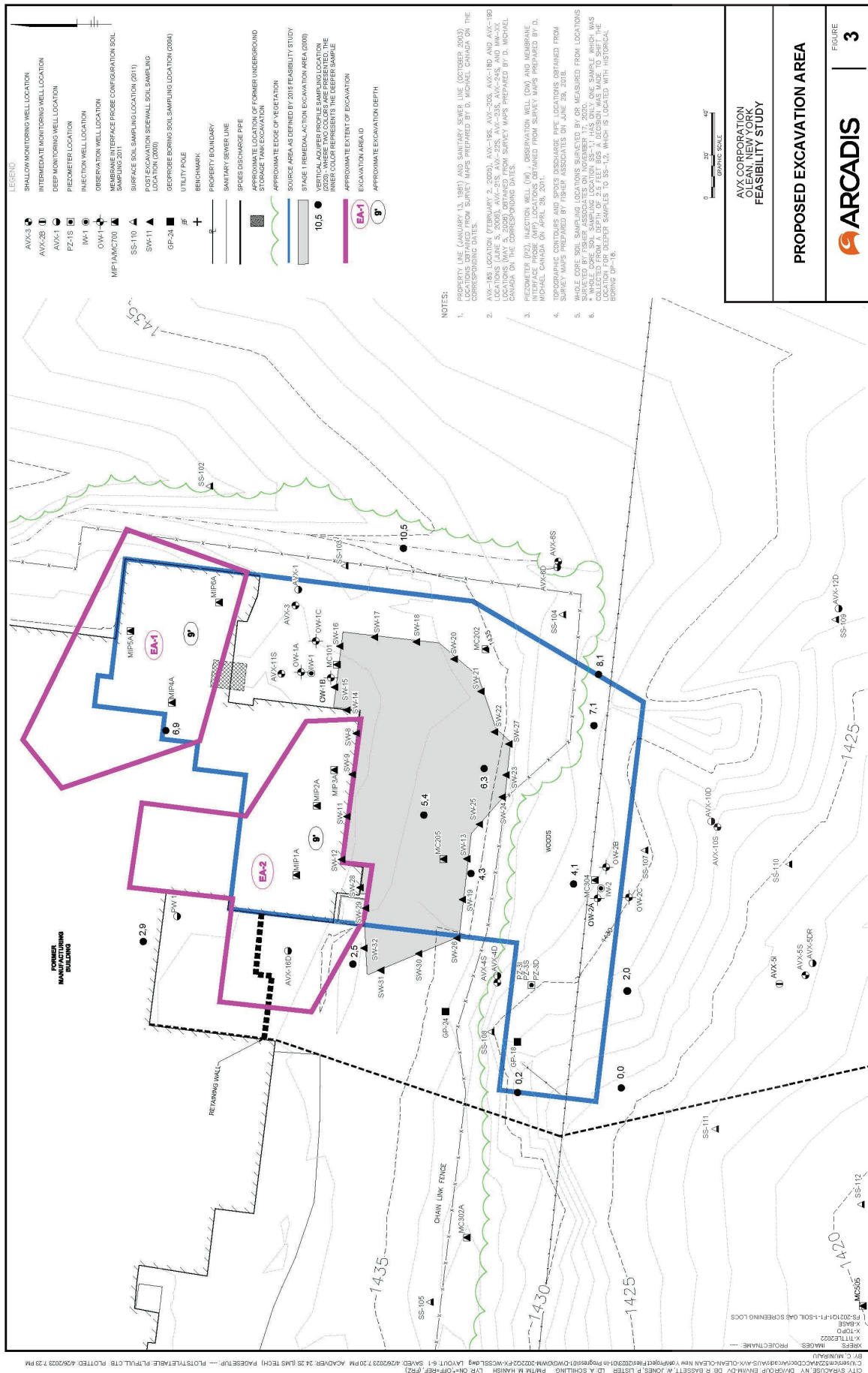


Figure 3: Alternative 3 -Excavation



ATTACHMENT B

PUBLIC NOTICE

EPA Invites Public Comment on a Proposed Cleanup Plan Addressing Contamination near the

Olean Wellfield Superfund Site in Olean, New York July 2023

The U.S. Environmental Protection Agency (EPA) has issued a proposed cleanup plan to address contaminated soils located beneath and near the former manufacturing building previously known as AVX Corporation.

A 30-day public comment period on the plan, which identifies EPA's cleanup alternatives, begins on July 27, 2023 and ends on August 28, 2023. EPA's proposed alternative involves soil excavation and removal of the existing concrete slab floor, removal of the impacted soil, off-site disposal and restoration with imported clean fill material. The former AVX Corporation is now owned by KYOCERA AVX Components Corporation (KAVX).

EPA will hold a public meeting at 6:00 pm on August 8, 2023 in the Magnano Reception Room near the Cutco Theater, 305 North Barry Street at the Cattaraugus County Campus of Jamestown Community College in Olean, to get public reaction and input to the proposed cleanup plan.

The proposed cleanup plan is available at: <http://www.epa.gov/superfund/olean-wellfield>

ATTACHMENT C

PUBLIC MEETING TRANSCRIPT

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

1 OLEAN WELL FIELD SUPERFUND SITE:
2 OPERABLE UNIT 5

3 _____

4 In Re:

5 Proposed Plan Public Meeting

6 _____

7

8 HELD ON: August 8, 2023

9

10

11 HELD AT: Jamestown Community College
12 Cattaraugus County Campus
13 305 North Barry Street
14 Olean, New York

13

14

15

16 BEFORE: CARMEN A. NASCA
 Court Reporter

17 APPEARANCES:

18 MICHAEL BASILE, USEPA Region 2 Community
 Involvement Coordinator

19 MAEVE WURTZ, EPA Remedial Project Manager
20 BOB RING, Cattaraugus County Health Department
21 PETE MANNINO, Branch Chief

21

22

23

24

25

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 2

1 MICHAEL BASILE: Good evening. My
2 name is Mike Basile. I'm the
3 community-involving coordinator at EPA.
4 I want to welcome you to our proposed
5 plan rollout for the Olean well field
6 site here in Olean, New York. Thank you
7 for taking the time to come out. We
8 have a simple agenda tonight. You have
9 the agenda in front of you. Thank you
10 for signing in. When you sign in, you
11 automatically go on our mailing list.
12 I'm going to give the opportunity of our
13 remedial project manager, Maeve Wurtz.
14 She'll have a PowerPoint presentation to
15 explain the proposed plan for this phase
16 of the clean up that we're recommending.
17 We're in the 30-day public commentary.
18 She'll be explaining all of that to you.
19 Give her an opportunity to make the
20 presentation and then we'll do questions
21 and answers after. We have a
22 stenographer that's here. We're going
23 to ask you to stand, state your name,
24 spell your name and your address for the
25 stenographer at that time. At this

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 3

1 time, I want to introduce a few folks
2 that will not be making presentations
3 but are here: Mr. Bob Ring from the
4 Cattaraugus County Health Department and
5 with our team at EPA at 290 Broadway,
6 Pete Mannino, a branch chief right here,
7 Maeve Wurtz, our remedial project
8 manager. Maeve?

9 MAEVE WURTZ: Hi, everyone. Thanks
10 for coming out tonight. So Mike just
11 introduced everyone who's here tonight.
12 Also on the site team, we have Nick
13 Mazziotta who's a health risk assessor
14 and Sharon Kivowitz who is our site
15 attorney, as well as Steve Moeller and
16 Eamonn O'Neill with New York State. So
17 tonight, I'm going to be talking about
18 the Superfund process in general and
19 then get into the site background and
20 the site investigations that have been
21 conducted thus far then we'll get into
22 EPA's cleanup options, and our preferred
23 alternative and then, at the end, we'll
24 have time for any questions and we can
25 go back to any slide. So just a little

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 4

1 bit about the Superfund process in
2 general. It starts off with the
3 preliminary assessment, which is an
4 initial investigation into the type of
5 contaminant at the site and if that
6 determination is above a certain level,
7 then the site gets elevated to the
8 national priority list. Once the site
9 is ranked on the national priority list,
10 the remedial investigation can start and
11 this is a more in-depth investigation
12 into the type and extent of
13 contamination at the site. After the
14 remedial investigation is done, the
15 feasibility study can be conducted and
16 this is when the EPA looks at the
17 different types of technology available
18 to us to address the contamination at
19 the site. After that, we're in the
20 proposed planning and record of decision
21 phase, which is where we're at right now
22 with OU5. This is when EPA releases the
23 proposed plan for the cleanup and that
24 opens up a 30-day public comment period
25 where we are open to the receiving of

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 5

1 any comments, questions from the
2 community and after that comment period
3 is closed, we finalize the alternative
4 and take into account and record any
5 comments or questions that were received
6 during the public comment period. Then,
7 the remedial design and remedial action
8 phase is conducted. This is when the
9 chosen remedy is constructed as -- and
10 designed before constructed and once the
11 remedy is constructed, EPA operates and
12 maintains the remedy until the
13 contaminants are at low enough levels
14 that it is no longer needed. Throughout
15 this whole process, community
16 involvement is really important so I
17 want to thank all of you for coming out
18 tonight and hearing what we have to say.

19 So EPA breaks larger or more
20 complex Superfund sites into different
21 operable units. This is so we can
22 address different types of contamination
23 or different geographic sections of
24 contamination so that we can conduct the
25 cleanup in the most efficient and

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 6

1 fastest way possible. Olean has five
2 different operable units. They are OU1,
3 which is ground water, OU2, which is the
4 four source areas, which are Alcas, AVX,
5 Loohn's, and McGraw Edison. OU3 is
6 Alcas parcel B, OU4 is the area south of
7 the AVX property and OU5 are the source
8 area soils at the AVX property.

9 This is a figure of the entire
10 Superfund site. So over here, we have
11 the Alcas facility. Alcas is currently
12 owned by the cutlery corporation, Cut
13 Co. Corporation, so we have OU2 in green
14 above and OU3 below in orange. In the
15 middle, we have the AVX facility. AVX
16 is currently owned by Kyocera AVX
17 Components Corporation or KAVX. We have
18 OU2 in green above OU4 in red and OU5 in
19 blue. Right below there is Loohn's Dry
20 Cleaners and over to the right, we have
21 McGraw Edison, which is currently owned
22 by Cooper Power Systems. Just zooming
23 in on the AVX site, OU5, which we're
24 talking about tonight, is the
25 contaminated soil located beneath and

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 7

1 near the footprint of the former
2 reconstruction building on AVX property.
3 So again, that's in blue.
4 A little bit about the site
5 investigation history. The
6 contamination was first discovered in
7 1981 when contamination was found in the
8 three municipal supply wells and nearby
9 private residential wells. So as a
10 result of this discovery, the wells were
11 shut down and service water treatment
12 facility operations were started in
13 order to get clean water to residents.
14 In 1985, the first Record of
15 Decision for the decision was published
16 and this called for the installation of
17 air-strippers on the Municipal wells, as
18 well as the extension of the City of
19 Olean waterline into the Town of Olean
20 in order to connect residents to the
21 public water supply who were using
22 private wells. The ROD also called for
23 institutional controls to limit or
24 restrict groundwater use and since then,
25 the air-stripping devices have been

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 8

1 working effectively and the water that's
2 pumped from the city Aquifer has been
3 meeting all federal and state standards.
4 In 1996, we issued the OU2 ROD and
5 this identified four source areas for
6 the site. As I said before, they were
7 Alcas, AVX, McGraw Edison, and Loohn's
8 so this Record of Decision required four
9 different cleanup methods for each
10 different source area. All of those are
11 still in progress. All four of those
12 source areas were also considered
13 sources of contamination to the City
14 Aquifer at one point in their -- when
15 they were running. So the four source
16 areas were McGraw Edison, the remedy is
17 pump and treat; there's Loohn's; that
18 was excavation, Alcas was vacuum
19 enhanced recovery and AVX was also
20 excavation. In 2014, the Alcas rod
21 amendment was issued. This is because
22 while work was going on in Alcas, based
23 on additional studies, it was found that
24 the remedy that was previously selected
25 would no longer -- would not be

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 9

1 successful so a new remedy of in-situ
2 chemical oxidation was selected.
3 There's also more contamination than
4 previously thought in 1996 so a new
5 operable unit, OU3, was designated at
6 the Alcas site and that remedy that was
7 selected in the 2014 ROD was Enhanced
8 Anaerobic Bioremediation.

9 Similarly, at the AVX site during
10 excavation, more contamination was
11 discovered than was previously known
12 about, specifically underneath a
13 manufacturing building in the
14 undeveloped wooded area to the south of
15 the AVX manufacturing building and
16 across the AVX property boundary to the
17 south. The remedy picked in the OU2 ROD
18 was an exposure barrier, a containment
19 trench, and a hydraulic pumping
20 containment system.

21 At the time of the 2015 recorded
22 decision, the contamination underneath
23 the manufacturing building was not
24 accessible because the building was
25 still an active manufacturing plant. So

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 10

1 at this time, the 2015 remedy was
2 considered an interim remedy until a
3 time where the contamination under the
4 building was successful. In 2018, AVX
5 ceased operations at their manufacturing
6 facility so this -- following demolition
7 in 2020, this started the feasibility
8 study process in order to test and get a
9 handle on the contamination under the
10 building and look into possible cleanup
11 options.

12 In 2022, we published the OU4
13 Record of Decision. Some of you were
14 here last summer for that meeting,
15 proposed plan meeting. The remedy
16 selected for that was in-situ chemical
17 oxidation and that brings us to 2023,
18 OU5.

19 So a little bit about the history
20 of AVX manufacturing. The Olean
21 facility was opened in 1950 and they
22 produced ceramic capacitors and
23 resistors. TCE was used until the early
24 1970s, where after that they switched to
25 PCE, and then shortly after that, 1,1,

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 11

1 TCA and that was used until the late
2 1980s.

3 Just a few locations that -- of the
4 AVX manufacturing building that will
5 come up later until the presentation.
6 So down in the southeast corner, there
7 was the former machine shop maintenance
8 area and also the receiving and chemical
9 storage area and then, a little above
10 them are the tape and reel storage areas
11 and the powder and barrel storage area.

12 So as I said before, in 2018, AVX
13 ceased operations at the manufacturing
14 building and in 2020, the building was
15 demolished. The concrete slab was left
16 behind that is acting as a barrier to
17 the elevated concentrations of
18 contaminations in the soil. From 2020
19 to 2022, the feasibility study
20 investigation and treatability study
21 were conducted by KAVX. In 2022 to
22 2023, the feasibility was conducted also
23 by KAVX and in 2023, we are releasing
24 our proposed plan for cleanup of the
25 contamination.

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 12

1 So the investigation activities at
2 OU5 were designed to define the location
3 and extent of contaminants beneath and
4 near the former manufacturing building
5 and also to characterize the
6 hydrogeology in order to define any
7 potential pathways of contaminant
8 transport. The sampling methods used
9 during the OU5 investigations were photo
10 ionization detector screening, soil gas
11 screening, whole core soil sampling and
12 vertical Aquifer profile sampling.

13 This is a figure of the soil, gas
14 screening locations. Just to orient you
15 all, this highlighted yellow is the edge
16 of the manufacturing building, so
17 anything to the north of that is the
18 manufacturing building or former
19 manufacturing building. This blue
20 outline is the source area as defined in
21 the 2015 Record of Decision and all of
22 the points are different soil, gas
23 screening locations.

24 This legend is hard to see. The
25 pink and red dots are the highest areas

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 13

1 of contamination. So there are 114 soil
2 and gas screening locations. This is
3 where the highest levels popped up so
4 you can see, if you remember the
5 locations from the previous slide, over
6 here is the general area of the machine
7 shop and maintenance area and over here
8 is the general area of the receiving
9 area and chemical storage area. The
10 highest levels range from 145 to 1,436
11 parts per million.

12 This is a figure of the whole core
13 soil samples. Similarly, this is the
14 outline of the building. Anything north
15 of that is the former manufacturing
16 building and the blue is the outline of
17 the source area as defined by the 2015
18 Record of Decision.

19 There were 40 different locations
20 for the core sampling. There were 300
21 soil samples that were analyzed and
22 similarly, we found the highest levels
23 of contamination in similar places so
24 down near the machine shop and
25 maintenance area, as well as the

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 14

1 receiving area and chemical storage
2 areas. Another notable area was the
3 southeast corner of the area that was
4 formerly excavated as part of the 2015
5 remedy, which the former excavation is
6 this, outlined in grey.

7 Vertical Aquifer profile samples
8 were also collected during the whole
9 core sampling. If there is enough water
10 in the samples to sample. So only 13
11 out of 40 borings contained enough water
12 to sample and the samples -- the
13 concentration of contaminants in the
14 samples were relatively consistent with
15 the semi -- annual groundwater sampling
16 that has been conducted since 2000.

17 The chemicals of potential concern
18 at the site are TCE, PCE, CIS, 1, 2,
19 DCE, 1,1,1 TCA, 1,2, DCA, trans 1, 2,
20 dichloroethene, toluene, xylene, vinyl
21 chloride, and 1,4-dioxane. To the left,
22 we have a table with the maximum soil
23 contaminant concentrations so they range
24 from about 2 parts per million for vinyl
25 chloride, up to 1500 parts per million

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 15

1 for TCE. And then, to -- on the table
2 to the right, we have the soil
3 remediation goals and these are the
4 levels to which we are aiming to
5 remediate down to. So they are a lot
6 lower than the table on the left.

7 Using site-sampling results, EPA
8 conducts risk assessments, which are
9 used to determine the potential risks
10 from coming into contact with
11 contaminated soil. There was a risk
12 assessment performed as part of the
13 original 1996 OU2 ROD, as well as a risk
14 evaluation performed as part of the
15 2015 ROD amendment.

16 EPA has determined that the results
17 of both the assessment and evaluation
18 have not substantially changed. The
19 risk assessment was driven by high
20 levels of contaminants in the soil,
21 underneath the concrete slab at the
22 former manufacturing building and the
23 risks were associated with exposure to
24 contaminants and soil and they were
25 calculated for the ingestion and

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 16

1 inhalation of contaminants by
2 construction workers since it is an
3 industrial area.

4 An ecological risk assessment was
5 also conducted and it was found that
6 exposures to -- ecological exposures to
7 soil or sediment at OU5 were considered
8 unlikely to pose risk. Remedial action
9 objectives are goals to protect human
10 and health -- human health and the
11 environment. They are site-specific.
12 The following RAOs have been established
13 for OU5. They are to reduce the
14 migration of VOC contaminants in soil
15 and groundwater and to eliminate the
16 potential for human exposure to site
17 contaminants via contact with soil
18 concentrations above New York State DEC
19 soil cleanup objectives for commercial
20 properties.

21 So getting into our potential
22 alternatives, Alternative 1 is
23 no-action. Superfund regulations
24 require that a no-action alternative be
25 used as a baseline for comparing other

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 17

1 alternatives. Under this alternative,
2 there would be no remediation -- no
3 active remediation activities to control
4 or remove soil contaminants.
5 Alternative 2 is long-term monitoring.
6 This would involve monitoring
7 concentrations of contaminants in the
8 soil that are reduced by naturally
9 occurring processes. It would also
10 involve installing four additional
11 monitoring wells and coming up with a
12 monitoring program. The long-term
13 monitoring alternative would cost
14 \$291,000.

15 Alternative 3 is excavation. This
16 would involve the demolition and removal
17 of the existing concrete slab floor and
18 foundation supports, excavation of
19 contaminated, unsaturated soil, off-site
20 transportation, disposal of excavated
21 material and restoration with clean,
22 imported fill material. This is a
23 figure of the proposed excavation area.
24 So we have our outline of the building
25 in yellow and in pink, the proposed

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 18

1 excavation areas. So you can see they
2 are in the areas of the highest
3 contamination as found by testing.

4 Alternative 3 would cost \$2,414,000.

5 Alternative 4 is in-situ soil
6 solidification. This would involve
7 contaminants being solidified into a
8 solid block using a binding agent and
9 this would trap the chemicals and not
10 allow them to move or migrate. It would
11 also involve a cover designed to keep
12 the treated block underneath the frost
13 line to protect it and to promote storm
14 water drainage away from the treatment
15 zone. Alternative 4 would cost
16 \$2,901,000.

17 Alternative 5 is in-situ thermal
18 radiation. This would involve using
19 heat to move and mobilize the
20 contaminants in the soil. So this would
21 -- the heat would cause the contaminants
22 to move through the soil towards
23 installed wells where they'll be
24 collected and piped to the surface to be
25 treated and at the surface, they will be

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 19

1 treated using cooling phase separation,
2 air-stripping, and activated carbon.
3 Alternative 5 would cost \$3,581,000.
4 EPA uses seven balancing criteria
5 when comparing the alternatives to each
6 other, as well as state and community
7 acceptance. So the seven balancing
8 criteria are the overall protection of
9 human health and the environment,
10 compliance with applicable or relevant
11 and appropriate requirements, long-term
12 effectiveness and permanence, reduction
13 in toxicity, mobility or volume of
14 contaminants through treatment,
15 short-term effectiveness,
16 implementability and cost.
17 EPA's preferred alternative is
18 Alternative 3, excavation. And again,
19 that would involve the demolition and
20 removal of the existing concrete slab
21 floor and foundation supports, the
22 excavation of contaminated, unsaturated
23 soil, off-site transportation of that
24 soil, disposal of the excavated material
25 and restoration with a clean fill.

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 20

1 So our basis for the selection of
2 excavation is that it permanently
3 removes the contaminated soil. It's a
4 relatively short remediation timeframe
5 and it provides the best balance of
6 tradeoffs compared to the other
7 alternatives with respect to the
8 balancing criteria. Again, Alternative
9 3 would cost \$2,414,000.

10 So our next steps are -- we are
11 accepting any written comments on this
12 proposed plan through August 28th and
13 after that, EPA will prepare a Record of
14 Decision, which formalizes the selection
15 of the remedy and takes and records any
16 comments received through the public
17 comment period, as well as any verbal
18 comments we may receive tonight.

19 You can address any written
20 comments to this address here. I'll
21 leave it up on the screen in case anyone
22 wants to write it down at the end. You
23 can also email me at this address. All
24 of this presentation and all of the site
25 documents can be found online on the

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 21

1 site's webpage or they are available at
2 the Olean Public Library or the EPA
3 record center. Now we have time for any
4 questions.

5 MICHAEL BASILE: Thank you very
6 much, Maeve. At this time, we will
7 entertain questions and once again, I
8 was just going to call upon you. I
9 would just ask you to identify yourself,
10 spell your name, your first and last
11 name, and give your address so we can
12 have the stenographer, Carmen, put that
13 into public record. Any questions at
14 this time about the presentation? Yes,
15 sir?

16 RICHARD WEBER: I've got three
17 questions.

18 MICHAEL BASILE: Okay.

19 RICHARD WEBER: Richard Paul Weber,

20 FOIA Exemption 6 Olean, New York. My

21 questions are: There's two sites.
22 You've got to talking about this site,
23 but they also tore the building down on
24 the corner of Seneca and Line Street,
25 which also had chemicals underneath it,

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 22

1 but that has just weeded over. They
2 left it there, left the fence up.
3 That's not being touched and AVX, per
4 se, is in the Town of Olean, not Olean.
5 You're addressing everything to Olean,
6 New York and there ain't nobody here
7 from Olean, not a mayor, not an
8 alderman, not a town supervisor, not a
9 legislator. There's nobody here but
10 neighbors and the AVX and the county and
11 you people from the EPA and the
12 stenographer. There's nobody here
13 higher than us three here. Olean Tile
14 was another one that was part of this
15 deal, but never -- they never slapped
16 their hands. They did the same thing.
17 They were using the same chemicals we
18 were at AVX.

19 And the third question is: Will we
20 be told which alternative you're going
21 to do? Will they tell us prior to doing
22 it or will they just tear the building
23 down or tear the ground up and not tell
24 anybody? Are they going to notify us?
25 The other thing is: On this one second

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 23

1 page, it said it was an oversight in
2 1981 and 1983. I was there in 1981 and
3 '83. I seen them pour the chemicals
4 down in the ground underneath the box
5 crusher in the back of the plant. They
6 did it for 20 years. They put the PCE
7 in the ground, but they couldn't get rid
8 of it. Now it leaked into the Aquifer
9 and this second page, it makes no sense.
10 You're saying it's contaminated from the
11 Haskell Creek, to the Olean Creek to the
12 Allegany River. Well, hell bell. My
13 house is on the corner of Clark and
14 Seneca. Are you telling me that if I
15 want to sell my house, I'm going to have
16 to tell somebody that my ground
17 underneath is contaminated, the water is
18 contaminated under my house? I just
19 don't understand this second page. I
20 really don't understand it and if
21 somebody can explain it to me, go ahead.
22 I mean, it doesn't -- an oversight?
23 There was no such thing as an oversight.
24 They did it on purpose and there's a lot
25 of people dying right now. I've got

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 24

1 cancer. I've had cancer, but there's a
2 lot of people that I know personally
3 from AVX that are dying daily from
4 cancer. I hate to tell you where that
5 came from. TCE is the worst
6 carcinogenic in the world. So those are
7 my questions. I don't understand that
8 second page.

9 MICHAEL BASILE: Well, I can answer
10 your question about the elected
11 officials. At every one of our
12 Superfund sites including this site, we
13 have an elected officials listing. We
14 send everything electronically to the
15 mayor, supervisor. We send it out to
16 the state representatives, including the
17 state assemblymen, the state senator, as
18 well as our federal counterparts,
19 Senator Schumer and Senator Gillibrand's
20 office. At many of our meetings, they
21 do send representatives to the meetings.
22 This meeting, just like the one that we
23 held last year, they receive and they
24 receive complimentary information about
25 this meeting, the agenda, as well as the

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 25

1 community update so they're well aware
2 of the meeting, okay?

3 RICHARD WEBER: Okay. I just don't
4 understand. Believe me, I'm going to
5 confront every one of them. I know them
6 all.

7 MAEVE WURTZ: To address one of
8 your other comments, so, this is our
9 community notification of our proposed
10 cleanup plan, which is the excavation.
11 So everyone has 30 days, starting when
12 we released this plan last week, to
13 review the plan, have any comments, tell
14 us how we can do it better from your
15 point of view and then, on August 28th,
16 that public comment period closes and
17 after that, we review everything that
18 we've gotten and finalize the decision
19 and at that point, when the recorded
20 decision is published, that is our
21 notification of what our plan is to do
22 with the cleanup.

23 RICHARD WEBER: Okay. Thank you.

24 PETE MANNINO: I'm sorry. There
25 were -- I believe there were a couple

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 26

1 more points to your questions and
2 comments. On the oversight piece, I
3 believe, unless there was an error, the
4 oversight pertains to EPA's overseeing
5 the work that the responsible parties
6 did at the three source areas. The
7 fourth source area, Loohn's, was done
8 under -- by the federal government and
9 so the federal government wouldn't
10 oversee itself, but at the former KAVX
11 at Alcas and at McGraw, work that was
12 done by the what we call, "potentially
13 responsible parties," PRPs, was overseen
14 by the federal government so I believe
15 that's the context of oversight there.

16 With respect to your point about
17 Olean Tile and the other location, I
18 believe Olean Tile was one of the -- it
19 predates me -- it goes back to the early
20 '80s -- but of the original 13 or 15
21 potential source areas that were
22 evaluated either by New York State DEC
23 or EPA. And of those facilities, we
24 identified the four that Maeve described
25 earlier as being sources of the

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 27

1 groundwater contamination at the site.
2 So I believe it was one of our -- not
3 the last public meeting, but maybe with
4 respect to the OU2 amended ROD where
5 some community members identified other
6 potential source areas where chemicals
7 were used and we were not able to find
8 any records of disposal or releases at
9 those locations. So please, if you are
10 aware of disposal or other potential
11 known source areas, provide us the
12 information. We will continue to follow
13 up because, you know, this is the data
14 as we know it as a snapshot today, but
15 there's been a long history of looking
16 at other potential --

17 RICHARD WEBER: They did. They
18 buried tile and chemicals and everything
19 in the back of their lot where they're
20 building Tim Horton's right now.

21 PETE MANNINO: So keep in mind,
22 ceramic tile typically wouldn't be a
23 hazardous waste. Some of the adhesives
24 and glues that are associated with the
25 tile industry could potentially have

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 28

1 hazardous substances to it, but how

2 ceramic tile itself would not likely

3 generate health hazards when --

4 RICHARD WEBER: Where they're going

5 to dig and where they're going to take

6 out in the back of that plant, going

7 towards Cooper from that direction,

8 there was a city dump --

9 PETE MANNINO: Yes.

10 RICHARD WEBER: -- in there for 34

11 years. They dumped everything but the

12 kitchen sink in there and --

13 PETE MANNINO: Yes, so -- but --

14 RICHARD WEBER: -- and it burnt for

15 years. It got on fire and never -- they

16 could never put it out. It took them

17 years to get the thing to go out so

18 that's another thing. When you start

19 digging, are you going to draw some of

20 that crap from down there?

21 PETE MANNINO: So two points. One:

22 The names of the various dumps in that

23 area, I can't remember off the top of my

24 head, but I believe there was at least

25 two that were previously looked at so

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 29

1 that is something that was looked at in
2 the past. We didn't find -- based on
3 the groundwater data, soil data that was
4 collected, we didn't find any evidence
5 of hazardous waste contamination at
6 those locations.

7 Again, if you're aware of specific
8 disposal activities, please share that
9 and we will, to the extent that we can,
10 follow up. Work continues. By no means
11 is today the end of EPA's or New York
12 State's investigation of the Olean
13 well-field Superfund site. With respect
14 to digging, this is a soil excavation
15 that we'd be doing at the KAVX property,
16 right? I believe the excavation would
17 go down to, basically, the water table,
18 which I -- we have an elevation. I
19 think it's probably just, like, 10 to
20 12, 13 feet. Somewhere thereabout 18,
21 just throwing a ballpark up -- or out.
22 Yes, go ahead.

23 NORM DEGROFF: Where I am, I'm
24 almost the same level as AVX. I just
25 had a well put in five or six years ago.

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 30

1 PETE MANNINO: Okay.

2 NORM DEGROFF: And he found water

3 at 50 feet. So he -- yeah.

4 PETE MANNINO: Okay. 50 feet --

5 NORM DEGROFF: 50 feet -- yeah.

6 PETE MANNINO: Okay.

7 NORM DEGROFF: So that's the water

8 table.

9 PETE MANNINO: At -- where we are

10 for the KAVX property, water table is

11 not at 50 feet.

12 NORM DEGROFF: They're a tad lower,

13 but you know, just the same.

14 PETE MANNINO: Right. We had a lot

15 of soil borings that have been done, a

16 lot of groundwater monitoring wells that

17 have been done. We have -- there's some

18 fluctuations within a couple of feet,

19 but not to the order of magnitude of,

20 you know, 10, 20, 30 feet so -- for

21 where we are at the KAVX property. So

22 that scope of work, you know, wouldn't

23 draw in water from the city Aquifer or,

24 you know, from any kind of significant

25 distances. So any water that comes into

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 31

1 the hole would be managed. I think the
2 current conceptual design would be that
3 that water would be captured, it would
4 be sent through the existing treatment
5 plant that was constructed at the KAVX
6 property, I believe that work was
7 completed around last year, and then
8 discharged to the City of Olean's
9 treatment work system. So it's
10 periodically sampled to make sure that
11 it meets all the discharge requirements.

12 So there again, the EPA doing
13 oversight, if the PRP is performing the
14 work and ensuring that all the standards
15 are being met, we would have air
16 monitoring to ensure that dust does not
17 pose a hazard to the nearby residents
18 and safety measures for all the workers,
19 trucks entering, leaving. All of the
20 best management practices will be in
21 place and that all gets flushed out once
22 we're in the remedial design phase.
23 After the Record of Decision, we'll get
24 into design. We develop the
25 specifications of exactly how the work

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 32

1 is going to be done, and then there's

2 the actual performance of the work.

3 NORM DEGROFF: I did request that

4 my soil got tested, because on the

5 screen -- if you want to bring that one

6 back up where it shows the worst two

7 spots in pink. I'm going to get up.

8 Now where's the building? The yellow?

9 MAEVE WURTZ: Yep.

10 NORM DEGROFF: I'm right here.

11 That's why I want to check. I'm

12 probably 200 feet, not even, from the

13 fence. Probably 100 feet so that's why

14 I want that done. Can we do it?

15 MAEVE WURTZ: Yeah, we would

16 recommend contacting your local health

17 department to see if they could do the

18 testing.

19 NORM DEGROFF: You would do it or

20 me?

21 MAEVE WURTZ: The health

22 department.

23 NORM DEGROFF: Who would contact

24 them?

25 MAEVE WURTZ: Yeah, you can reach

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 33

1 out to them to see if they can do it.

2 If they can't do it, they'll either be

3 in contact with us or let you know that.

4 You can always give me a call or

5 email --

6 NORM DEGROFF: I'll remind you.

7 MAEVE WURTZ: -- if nothing's

8 happening yet if you are looking to get

9 things done and things aren't getting

10 done.

11 NORM DEGROFF: I have a feeling if

12 I call them they'll just say I've got to

13 refer to you.

14 PETE MANNINO: We'll work together.

15 We'll make sure that you're not

16 ping-ponged back and forth. The county

17 representative is here, but if you don't

18 mind for a second, I just want to get

19 clarification: Are you looking to have

20 your groundwater or soil tested?

21 NORM DEGROFF: I'd like both.

22 Well, well water.

23 PETE MANNINO: Right. That's what

24 I meant.

25 NORM DEGROFF: That's probably

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 34

1 down, like I said, at least at
2 50-something feet they found water, but
3 it was too sandy and they kept going.

4 BOB RING: Do you mind if I say
5 something?

6 PETE MANNINO: Yeah, go right ahead
7 and then I have something I'd like to
8 add about groundwater quality and
9 groundwater flow direction just to
10 address the point entirely.

11 BOB RING: That was going to be my
12 question. Bob Ring, I'm the
13 environmental health director with
14 Cattaraugus County. So I think the
15 difference between the water that
16 they're encountering at, like, 9 or 10
17 feet deep, it's -- you know, a lot of
18 that comes from the surface and the
19 surface water that's getting down in.
20 You know, when the well driller --
21 they're looking for clean water,
22 drinking water and we consider Aquifer
23 to have 50-foot graders. There's no
24 influence from the surface water because
25 there's so many layers of clay and other

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 35

1 things so -- if the minimums of casing
2 and depth for a well nowadays, but going
3 to 50 is a really good idea. We figure
4 your drinking water is not under the
5 influence of anything that's at the
6 surface. Feel free to reach out to me
7 with regards to well testing, but as far
8 as the drinking water we'll get involved
9 and make any recommendations if needed.
10 NORM DEGROFF: So you're the county
11 health director?
12 BOB RING: Yes.
13 NORM DEGROFF: What's your name?
14 BOB RING: Bob Ring.
15 NORM DEGROFF: Ring.
16 PETE MANNINO: I would just like to
17 add, the city Aquifer, which is
18 typically what is called the Aquifer
19 where producing water for the drinking
20 water supply wells. That is
21 contaminated and that is why, back in
22 the '80s, the three supply wells in the
23 area, treatment was added to them. The
24 18M -- it's been a while -- 17 and it's
25 another well there. So just because

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 36

1 you're in the city Aquifer does not mean
2 that there are impacts from the site.
3 When it comes to KAVX, groundwater
4 flow in this area is generally from
5 north to south, right? So from where
6 the KAVX property is down towards the
7 river. You are what we would call
8 upgradient of KAVX so you can't expect
9 to see influences from KAVX groundwater
10 on your property across the street.

11 However, there are other sources of
12 groundwater contamination at the site
13 and, you know, I would suggest sampling
14 your well and coordinating with the
15 county to have that done.

16 NORM DEGROFF: Because it said
17 somewhere in the literature that the
18 groundwater and the ground was all
19 contaminated in that area. I'm assuming
20 it would go towards me even though I'm a
21 tad higher.

22 PETE MANNINO: Yeah, so
23 groundwater -- I mean --

24 NORM DEGROFF: Contamination, it
25 said, is in the soil under all the -- it

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 37

1 said under residences.

2 PETE MANNINO: No, because soil

3 contamination on the KAVX property is

4 really, generally to the south, right?

5 So the AVX manufacturing plant, when it

6 was expanded -- and I forget the

7 timeframes. So the area that we're

8 addressing now, at one point, the

9 structure was enlarged and covered up

10 part of the area that needed to be

11 addressed. So the original estimation

12 that was done that's shown in the shaded

13 area, that began in the late '90s, I

14 believe it was, and they couldn't go

15 further to the north because the

16 building was there, right? Most of the

17 contamination is in that southerly

18 direction and goes all the way down to,

19 you know, the -- we've sampled all the

20 way down to the railroad tracks and then

21 sampling done as part of the Operable

22 Unit 4 on the southern side of the

23 railroad tracks didn't show any soil

24 contamination.

25 NORM DEGROFF: It did or did not?

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 38

1 PETE MANNINO: It did not in the
2 unsaturated zone. In the saturated
3 zone, within the water table, there were
4 some points. Let me correct myself. I
5 believe there may have been one or two
6 samples in the unsaturated zone that
7 showed some contamination, but --

8 RICHARD WEBER: I got -- I was told
9 there's a real thing here. The TCE that
10 we're talking about --

11 PETE MANNINO: Yes.

12 RICHARD WEBER: -- was used at
13 Cooper.

14 PETE MANNINO: Yes.

15 RICHARD WEBER: It was used at
16 Loohn's.

17 PETE MANNINO: Yes.

18 RICHARD WEBER: It was used at
19 Alcas.

20 PETE MANNINO: Yes.

21 RICHARD WEBER: It was used at AVX
22 and it was used at the tile plant. They
23 all dumped it out their backdoors. They
24 didn't know what to do with it. AVX out
25 it in the ground. Okay, it leaked. Now

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 39

1 it's in everything. Now, if you're
2 saying that AVX is the only place to get
3 the TCE --

4 PETE MANNINO: No, I did not say
5 that.

6 RICHARD WEBER: -- that's wrong
7 because now you're saying the
8 contamination -- because this says right
9 here, "The contamination is from the
10 Haskell Road to the Olean Creek to the
11 Allegany River." That means the ground
12 underneath my house may have TCE in it
13 because not only AVX, it could be from
14 Alcas, it could be from the tile plant,
15 it could be from Cooper, it could be
16 from Loohn's. So the entire area is
17 contaminated. That's probably why the
18 city doesn't even want to come here
19 because they don't know what to do
20 either.

21 PETE MANNINO: So just so we're
22 clear, that statement in that community
23 update, that flyer, pertains to
24 groundwater contamination and not soil,
25 okay? What I was saying before, with

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 40

1 respect to soil contamination, right?
2 I'm just going to go up here for a
3 second. When you look at all the data
4 that's been collected, and over the
5 years there's been a significant amount
6 of data, when dealing with soil
7 contamination related to the KAVX
8 property, that soil contamination is to
9 the south, right? There isn't going to
10 be a need for a clean up on the northern
11 side of the property, right? And so
12 with respect to your specific comment
13 regarding soil contamination, right, we
14 didn't see it to the north of the
15 property and it's unlikely to be on your
16 property, right?

17 NORM DEGROFF: It would be nice to
18 know, though.

19 PETE MANNINO: I'm sorry?

20 RICHARD WEBER: It would be good to
21 know.

22 PETE MANNINO: I understand and I
23 recognize the comment, and I just -- I'm
24 not in a position to say yes or no that
25 we would sample your -- collect a soil

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 41

1 sample. I just -- I want to make sure
2 you understand or recognize the current
3 conditions at the KAVX property, right?
4 The soil digging is in the back in the
5 rear and not in the front, okay? That's
6 just -- based on all the data that's
7 been collected, the contamination is
8 down here, not in the front, okay?

9 RICHARD WEBER: I understand.

10 PETE MANNINO: And again, you make
11 a valid point. You still would feel
12 more comfortable knowing specifically
13 based on a soil sample collected on your
14 property. I recognize that.

15 NORM DEGROFF: He's talking about
16 Loohn's. That got cleaned out, didn't
17 it?

18 PETE MANNINO: Loohn's in --

19 NORM DEGROFF: They dug that out.

20 PETE MANNINO: -- in the
21 timeframe --

22 NORM DEGROFF: 30 years ago?

23 PETE MANNINO: It's been a while.

24 I believe it was in the '90s, late '90s.

25 EPA used federal funds with a 10 percent

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 42

1 contribution from New York State and we
2 performed a soil excavation and we
3 continued to monitor the groundwater
4 quality in that area and we are still
5 seeing exceedances of certain VOCs in
6 certain groundwater-monitored wells in
7 that property and I believe the next
8 sampling of that is going to be
9 happening sometime this month for the
10 Loohn's property. And the city Aquifer,
11 which we were talking about earlier,
12 gets sampled periodically by the PRP
13 groups and we receive that data.

14 Before I forget, I believe there
15 was one more part of your original
16 comment with respect to notifications
17 when you go to sell -- if and when you
18 go to sell your property and all I can
19 say about that is when that time comes,
20 you should coordinate with your realtor
21 and understand the New York State laws
22 with respect to notifications so -- but
23 again, it's groundwater contamination
24 and not soil contamination on the
25 property.

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 43

1 NORM DEGROFF: One other point --

2 PETE MANNINO: Yeah.

3 NORM DEGROFF: And maybe you would

4 know, but the waterline of the city

5 would run out Seneca Avenue, but it

6 stopped halfway down, right about

7 eastern end of the AVX property. Why

8 didn't it go further?

9 PETE MANNINO: I don't know the

10 whole history of it as far as the

11 waterline going through the town.

12 NORM DEGROFF: The place where they

13 used to unload the trucks by the road,

14 there were some bikes there they used to

15 come in here to wait and they would

16 punch stuff into the plant. Right

17 roughly there is where that line is. It

18 was just towards the eastern end of the

19 -- or whatever it is.

20 PETE MANNINO: Anyway, if you do

21 want to consider expense and --

22 NORM DEGROFF: Actually, it

23 really --

24 PETE MANNINO: -- you would talk to

25 your town representative about it to get

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 44

1 the ball rolling.

2 NORM DEGROFF: What was that?

3 BOB RING: Talk to your town

4 representative. You know, they would

5 have the initiation, you know in sense

6 to the water district, we can certainly

7 help, you know, there might be State

8 funding available for property if that's

9 something that you wanted. You also

10 have the ability to fund it yourself if

11 you're 200 feet away.

12 NORM DEGROFF: I'm about -- my

13 property is probably about 100 to 150

14 feet from the AVX property. That's why

15 I'm concerned about it. I can look

16 straight up to where the plant was.

17 BOB RING: If we can get a copy of

18 this presentation, they listed, you

19 know, all the chemicals that would be --

20 you know, that you would want to test

21 for so that might be a better place to

22 start.

23 NORM DEGROFF: I just want the

24 ground tested and the water tested,

25 basically.

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 45

1 BOB RING: I don't know if the
2 state will fund the testing, but there
3 are plenty of labs in the area that will
4 sample.

5 RICHARD WEBER: How about him? How
6 about Stan and I? We live inside of the
7 city. We are --

8 BOB RING: So the city --

9 RICHARD WEBER: We're all on the
10 same waterline.

11 BOB RING: So they're required to
12 do regular testing that's all available
13 in their annual water quality report.

14 RICHARD WEBER: The water testing,
15 would we have to pay for that?

16 PETE MANNINO: No. If you are on
17 city water, then the water that you
18 receive from the tap is required to meet
19 all federal and state standards and the
20 water distributor has their periodic
21 sampling, whether it's quarterly,
22 semi-annual or annually that can be made
23 available to show you what is being
24 distributed.

25 NORM DEGROFF: I'll just wait to

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 46

1 see what the water in the well tests out
2 to be and we'll go from there. If it
3 shows it's okay, then we'll just leave
4 it. I just put that in. It cost me
5 quite a bit of money. At one time, in
6 the 90s, we had a lot of rain. I could
7 see rainbows in the water in the
8 backyard. You know what I'm talking
9 about?

10 PETE MANNINO: Yeah, that could
11 just -- and again, not knowing the
12 composition, that could just be organic
13 material from your yard and not related
14 to anything else.

15 NORM DEGROFF: Just saying.

16 PETE MANNINO: Yeah, no, yeah.

17 STANLEY WESLEY: My name is Stanley
18 Wesley, I live Olean, New York.
19 You're talking about
20 groundwater and along the railroad
21 tracks and that, there's two little --
22 there's a creek that follows down and
23 dumps in and goes under. Is there any 24
chance of getting those cleaned out so 25 the
water moves faster? And -- do you

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 47

1 know what I'm saying? Because --
2 PETE MANNINO: Yeah, so that you
3 would have to speak to your local
4 representatives, local government to see
5 what they can do and maybe they can
6 solve that, but that is outside of our
7 purview. We wouldn't clean out creeks
8 or water bodies.

9 STANLEY WESLEY: And I was curious;
10 you put the big ditch back in by the
11 tracks, have you been -- I take it you
12 would want the body of water, has that
13 made any difference since you put it in
14 for your sampling or that? Is the
15 sampling improving?

16 PETE MANNINO: So are you talking
17 about the ditch in the back where the
18 fields -- from the water from the former
19 operations at the plant gets discharged
20 to --

21 STANLEY WESLEY: Yeah. No, I put
22 the trench in across that, following the
23 railroad tracks, basically, and that. I
24 believe you were going to fill it with
25 organic and I think there was some kind

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 48

1 of mud you would use.

2 PETE MANNINO: Oh, my apologies.

3 So you're talking about the hydraulic

4 trench that was installed along the KAVX

5 properties as part of what we call the

6 OU2 Record of Decision. Yes, so the

7 hydraulic trench was installed. I

8 believe that work was completed in the

9 -- about a year ago. We are receiving

10 data from KAVX with respect to the

11 treated water after it gets pulled out,

12 it goes to the treatment plant and then

13 it gets discharged. So where, you know,

14 construction is complete, we're

15 monitoring the data that's collected and

16 that's going to be a system that

17 operates for quite some time.

18 STANLEY WESLEY: I was just

19 wondering if you had any facts, you

20 know, or figures saying, "Oh, it was

21 here and now it's down here. It's

22 actually doing it's job," or anything?

23 PETE MANNINO: So I don't have any

24 data off the top of my head that I can

25 share with you.

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 49

1 STANLEY WESLEY: That's fine.

2 PETE MANNINO: What we typically do
3 is after a system like that is
4 constructed, we monitor the data for a
5 year, monitor the operation and then
6 make a decision of whether or not the
7 system is operating and functioning as
8 it was intended, and then it goes to the
9 next phase of work, which is basically,
10 you know, long term operation and
11 maintenance, but that's just us moving
12 the project from, you know, one phase to
13 the next phase.

14 STANLEY WESLEY: I was just
15 wondering.

16 PETE MANNINO: Yeah.

17 STANLEY WESLEY: I was curious. I
18 mean, I walked down there and watched
19 them digging it and it was a deep hole.

20 PETE MANNINO: Yep.

21 STANLEY WESLEY: And I have one
22 other question. It's off of AVX,
23 though. It's not that, but you were
24 doing Alcas and you had that new O3 box
25 underneath it?

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 50

1 PETE MANNINO: Yeah.

2 STANLEY WESLEY: Now, there was a
3 canal that ran in the back of Alcas --
4 it ran back from Alcas and basically,
5 the railroad tracks followed the canal.
6 Now when I was a child, I lived on
7 Grossman Avenue and AVX -- or not --
8 excuse me. Alcas dumped all kinds of
9 stuff in that canal. When we were kids,
10 we used to crawl in that stuff looking
11 for knives and that -- I don't know if
12 you guys are thinking of testing there
13 or have tested that canal to see what's
14 in there and if it's worth removing or
15 no.

16 PETE MANNINO: So I am not familiar
17 with the use of the canal when it comes
18 to the Alcas property, but after the
19 meeting, maybe we can pull up a figure
20 and you can kind of show us exactly the
21 area that you're talking about. That
22 would be helpful, but what I can tell
23 you now, you know, as it relates to this
24 meeting is that, you know, there's been
25 extensive sampling done on the Alcas

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 51

1 property. We identified the areas that
2 there was soil contamination and there
3 was some in-situ treatment technologies
4 used to address that contamination.
5 There's some groundwater contamination,
6 not soil, that is still being addressed
7 and some of that is on the Alcas
8 property and some of that is on the
9 adjoining parcels; we can call them
10 Parcel B or Operable Unit 3 and that
11 work there for the in-situ treatment and
12 the groundwater is -- either has begun
13 or is scheduled to begin again at some
14 point.

15 MAEVE WURTZ: Yeah, it's scheduled
16 for the next few months.

17 PETE MANNINO: Next few months,
18 yeah. Definitely, I'd like to talk to
19 you offline after this meeting and maybe
20 talk a figure so you'd just kind of
21 point me to the area, and then we can go
22 back and kind of take a closer look at
23 what data, if any, was collected in that
24 area.

25 NORM DEGROFF: The old city map

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 52

1 where the Shawmut Railroad came through
2 there over on the same side as the
3 canal.

4 PETE MANNINO: Okay.

5 STANLEY WESLEY: The canal would be
6 on the southern side. When they built
7 the Reading Railroad, they built it on
8 the side of the canal. I lived on -- I
9 live in Grossman Avenue, right in the
10 back of it, basically.

11 NORM DEGROFF: I think that's all
12 filled in now.

13 STANLEY WESLEY: It's all filled
14 in, but I mean, you know, like I said,
15 when we were kids, we used to crawl
16 around in the stuff looking for knives
17 and that and then there's that and, you
18 know, there's a backdoor there and stuff
19 came out and it went in the canal.

20 NORM DEGROFF: It's pretty much
21 behind the building.

22 STANLEY WESLEY: Yes, as a matter
23 of fact, some of their new buildings
24 would be on top of that canal.

25 NORM DEGROFF: Right up to it. I

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 53

1 mean, they kind of built around it

2 earlier at one time on an angle.

3 STANLEY WESLEY: Those are all the
4 questions I have. Thank you.

5 MICHAEL BASILE: Does anyone else
6 have a question?

7 NORM DEGROFF: One more.

8 MICHAEL BASILE: Yes, sir?

9 NORM DEGROFF: On the 28th, you're
10 going to decide how to take care of the
11 AVX; is that what you're saying?

12 PETE MANNINO: No.

13 NORM DEGROFF: Or after the 28th?

14 MAEVE WURTZ: Yes.

15 PETE MANNINO: Yes.

16 MAEVE WURTZ: Yeah, right, that's
17 the end of the public comment period so
18 then we finalize our cleanup plan and
19 release the Record of Decision.

20 NORM DEGROFF: And it's most likely
21 Number 3, right?

22 MAEVE WURTZ: That's EPA's
23 preferred alternative, yes.

24 PETE MANNINO: We have to wait and
25 see -- for the public commentaries to

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 54

1 end to see what the totality of the
2 comments are and use that in our
3 decision-making process to see whether
4 or not the selected -- the preferred
5 alternative that Maeve presented will
6 actually be the selected remedy or if
7 there's any modifications based on
8 public comment.

9 RICHARD WEBER: Will there be
10 another meeting before they start this?

11 PETE MANNINO: No.

12 MICHAEL BASILE: Once the comments
13 close, as Pete indicated on August 28th,
14 we will review all the comments and then
15 we'll issue a Record of Decision. That
16 Record of Decision will most likely be
17 signed by the 30th of September and we
18 will have a press-release that will go
19 out that will explain to the public that
20 the Record of Decision has now been
21 signed.

22 RICHARD WEBER: Thank you.

23 PETE MANNINO: We will also place a
24 copy of that Record of Decision on the
25 website that Maeve has there and this is

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 55

1 also on community updates and so you can
2 check there and before any construction
3 starts, we would also announce the start
4 of construction.

5 MICHAEL BASILE: Thank you for
6 taking the time. If you have any other
7 questions, we will be here for a while
8 and we hope you have a great remainder
9 of your summer and remember: The
10 deadline for public comments is August
11 28th. Have a great evening.

12 MAEVE WURTZ: Thanks, everyone.
13 (Proceedings concluded.)

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OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5
Public Meeting on 08/08/2023

Page 56

1 CERTIFICATION:

2

3 I hereby certify that the proceedings and
4 evidence are contained fully and accurately in the
5 notes taken by me on the above cause and that this
6 is a correct transcript of the same to the best of
7 my ability.

8

9

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CARMEN A. NASCA

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OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5**Public Meeting on 08/08/2023****Index: \$2,414,000..acceptance**

	1306 46:18	13:17 14:4	
\$	145 13:10	15:15	4
\$2,414,000	15 26:20	2018 10:4	4 18:5,15
18:4 20:9	150 44:13	11:12	37:22
\$2,901,000	1500 14:25	2020 10:7	40 13:19
18:16	17 35:24	11:14,18	14:11
\$291,000	18 29:20	2022 10:12	
17:14	18M 35:24	11:19,21	5
\$3,581,000	1950 10:21	2023 10:17	5 18:17
19:3	1970s 10:24	11:22,23	19:3
1	1980s 11:2	28th 20:12	50 30:3,4,
1 14:18,19	1981 7:7	25:15	5,11 35:3
16:22	23:2	53:9,13	50-foot
1,1 10:25	1983 23:2	54:13	34:23
1,1,1 14:19	1985 7:14	290 3:5	50-something
1,2 14:19	1996 8:4	21:20	34:2
1,4-dioxane	9:4 15:13	3	8
14:21	2	3 17:15	80s 26:20
1,436 13:10		18:4 19:18	35:22
10 29:19	2 14:18,19,	20:9 51:10	83 23:3
30:20	24 17:5	53:21	
34:16	20 23:6	30 25:11	9
41:25	30:20	30:20	9 34:16
100 32:13	200 32:12	41:22	90s 37:13
44:13	44:11	30-day 2:17	41:24 46:6
114 13:1	2000 14:16	4:24	
12 29:20	2014 8:20	300 13:20	A
13 14:10	9:7	30th 54:17	
26:20	2015 9:21	34 28:10	ability
29:20	10:1 12:21		44:10
			acceptance

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5**Public Meeting on 08/08/2023****Index: accepting..attorney**

19:7	adhesives	15,17	8:10 9:14
accepting	27:23	19:3,17,18	11:8,9,11
20:11	adjoining	20:8 22:20	12:20
accessible	51:9	53:23 54:5	13:6,7,8,
9:24	agenda 2:8,9	alternatives	9,17,25
account 5:4	24:25	16:22 17:1	14:1,2,3
acting 11:16	agent 18:8	19:5 20:7	16:3 17:23
action 5:7	ahead 23:21	amended 27:4	26:7 28:23
16:8	29:22 34:6	amendment	35:23
activated	aiming 15:4	8:21 15:15	36:4,19
19:2	air 31:15	amount 40:5	37:7,10,13
active 9:25	air-strippers	Anaerobic	39:16 42:4
17:3	7:17	9:8	45:3 50:21
activities	air-stripping	analyzed	51:21,24
12:1 17:3	7:25 19:2	13:21	areas 6:4
29:8	Alcas 6:4,6,	angle 53:2	8:5,12,16
actual 32:2	11 8:7,18,	annual 14:15	11:10
add 34:8	20,22 9:6	45:13	12:25 14:2
35:17	26:11	annually	18:1,2
added 35:23	38:19	45:22	26:6,21
additional	39:14	answers 2:21	27:6,11
8:23 17:10	49:24	apologies	51:1
address 2:24	50:3,4,8,	48:2	assemblymen
4:18 5:22	18,25 51:7	applicable	24:17
20:19,20,	alderman	19:10	assessment
23 21:11	22:8	Aquifer 8:2,	4:3 15:12,
25:7 34:10	Allegany	14 12:12	17,19 16:4
51:4	23:12	14:7 23:8	assessments
addressed	39:11	30:23	15:8
37:11 51:6	alternative	34:22	assessor
addressing	3:23 5:3	35:17,18	3:13
22:5 37:8	16:22,24	36:1 42:10	assuming
	17:1,5,13,	area 6:6,8	36:19
	15 18:4,5,		attorney
			3:15

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5

Public Meeting on 08/08/2023

Index: August..call

August 20:12	backdoor	began 37:13	branch 3:6
25:15	52:18	begin 51:13	breaks 5:19
54:13	backdoors	begun 51:12	bring 32:5
automatically	38:23	bell 23:12	brings 10:17
2:11	background	beneath 6:25	Broadway 3:5
Avenue 43:5	3:19	12:3	building 7:2
46:18 50:7	backyard	big 47:10	9:13,15,
52:9	46:8	bikes 43:14	23,24
AVX 6:4,7,	balance 20:5	binding 18:8	10:4,10
8,15,16,23	balancing	Bioremediation	11:4,14
7:2 8:7,19	19:4,7	9:8	12:4,16,
9:9,15,16	20:8	bit 4:1 7:4	18,19
10:4,20	ball 44:1	10:19 46:5	13:14,16
11:4,12	ballpark	block 18:8,	15:22
22:3,10,18	29:21	12	17:24
24:3 29:24	barrel 11:11	blue 6:19	21:23
37:5	barrier 9:18	7:3 12:19	22:22
38:21,24	11:16	13:16	27:20 32:8
39:2,13	based 8:22	Bob 3:3	37:16
43:7 44:14	29:2 41:6,	34:4,11,12	52:21
49:22 50:7	13 54:7	35:12,14	buildings
53:11	baseline	44:3,17	52:23
aware 25:1	16:25	45:1,8,11	built 52:6,7
27:10 29:7	basically	bodies 47:8	53:1
	29:17	body 47:12	buried 27:18
	44:25	borings	burnt 28:14
	47:23 49:9	14:11	
	50:4 52:10	30:15	C
	Basile 2:1,2	boundary	calculated
	21:5,18	9:16	15:25
	24:9 53:5,	box 23:4	call 21:8
	8 54:12	49:24	26:12
	basis 20:1		33:4,12
			36:7 48:5

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5**Public Meeting on 08/08/2023****Index: called..compliance**

51:9	characterize	19:25	40:12, 23
called 7:16,	12:5	34:21	42:16
22 35:18	check 32:11	40:10 47:7	53:17 54:8
canal 50:3,	chemical 9:2	cleaned	commentaries
5, 9, 13, 17	10:16 11:8	41:16	53:25
52:3, 5, 8,	13:9 14:1	46:24	commentary
19, 24	chemicals	Cleaners	2:17
cancer 24:1,	14:17 18:9	6:20	comments
4	21:25	cleanup 3:22	5:1, 5
capacitors	22:17 23:3	4:23 5:25	20:11, 16,
10:22	27:6, 18	8:9 10:10	18, 20
captured	44:19	11:24	25:8, 13
31:3	chief 3:6	16:19	26:2 54:2,
carbon 19:2	child 50:6	25:10, 22	12, 14
carcinogenic	chloride	53:18	commercial
24:6	14:21, 25	clear 39:22	16:19
care 53:10	chosen 5:9	close 54:13	community
Carmen 21:12	CIS 14:18	closed 5:3	5:2, 15
case 20:21	city 7:18	closer 51:22	19:6 25:1,
casing 35:1	8:2, 13	closes 25:16	9 27:5
Cattaraugus	28:8 30:23	collect	39:22
3:4 34:14	31:8 35:17	40:25	community-
ceased 10:5	36:1 39:18	collected	involving
11:13	42:10 43:4	14:8 18:24	2:3
center 21:3	45:7, 8, 17	29:4 40:4	compared
ceramic	51:25	41:7, 13	20:6
10:22	clarification	48:15	comparing
27:22 28:2	33:19	51:23	16:25 19:5
chance 46:24	Clark 21:20	comfortable	complete
changed	23:13	41:12	48:14
15:18	clay 34:25	comment 4:24	completed
	clean 2:16	5:2, 6	31:7 48:8
	7:13 17:21	20:17	complex 5:20
		25:16	compliance

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5**Public Meeting on 08/08/2023****Index: complimentary..cost**

19:10	15:8	19:14	continues
complimentary	confront	contaminated	29:10
24:24	25:5	6:25 15:11	contribution
Components	connect 7:20	17:19	42:1
6:17	considered	19:22 20:3	control 17:3
composition	8:12 10:2	23:10,17,	controls
46:12	16:7	18 35:21	7:23
concentration	consistent	36:19	cooling 19:1
14:13	14:14	39:17	Cooper 6:22
concentrations	constructed	contamination	28:7 38:13
11:17	5:9,10,11	4:13,18	39:15
14:23	31:5 49:4	5:22,24	coordinate
16:18 17:7	construction	7:6,7 8:13	42:20
conceptual	16:2 48:14	9:3,10,22	coordinating
31:2	contact	10:3,9	36:14
concern	15:10	11:25	coordinator
14:17	16:17	13:1,23	2:3
concerned	32:23 33:3	18:3 27:1	copy 44:17
44:15	contacting	29:5	54:24
concrete	32:16	36:12,24	core 12:11
11:15	contained	37:3,17,24	13:12,20
15:21	14:11	38:7 39:8,	14:9
17:17	containment	9,24 40:1,	corner 11:6
19:20	9:18,20	7,8,13	14:3 21:24
conditions	contaminant	41:7	23:13
41:3	4:5 12:7	42:23,24	corporation
conduct 5:24	14:23	51:2,4,5	6:12,13,17
conducted	contaminants	contaminations	correct 38:4
3:21 4:15	5:13 12:3	11:18	cost 17:13
5:8 11:21,	14:13	context	18:4,15
22 14:16	15:20,24	26:15	19:3,16
16:5	16:1,14,17	continue	20:9 46:4
conducts	17:4,7	27:12	
	18:7,20,21	continued	
		42:3	

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5**Public Meeting on 08/08/2023 Index: counterparts..discharged**

counterparts	data 27:13	12:20	designed
24:18	29:3 40:3,	13:17	5:10 12:2
county 3:4	6 41:6	DEGROFF	18:11
22:10	42:13	29:23	detector
33:16	48:10,15,	30:2,5,7,	12:10
34:14	24 49:4	12 32:3,	determination
35:10	51:23	10,19,23	4:6
36:15	days 25:11	33:6,11,	determine
couple 25:25	DCA 14:19	21,25	15:9
30:18	DCE 14:19	35:10,13,	determined
cover 18:11	deal 22:15	15 36:16,	15:16
covered 37:9	dealing 40:6	24 37:25	develop
crap 28:20	DEC 16:18	40:17	31:24
crawl 50:10	26:22	41:15,19,	devices 7:25
52:15	decide 53:10	22 43:1,3,	dichloroethene
creek 23:11	decision	12,22	14:20
39:10	4:20 7:15	44:2,12,23	difference
46:22	8:8 9:22	45:25	34:15
creeks 47:7	10:13	46:15	47:13
criteria	12:21	51:25	dig 28:5
19:4,8	13:18	52:11,20,	digging
20:8	20:14	25 53:7,9,	28:19
crusher 23:5	25:18,20	13,20	29:14 41:4
curious 47:9	31:23 48:6	demolished	49:19
49:17	49:6 53:19	11:15	direction
current 31:2	54:15,16,	demolition	28:7 34:9
41:2	20,24	10:6 17:16	37:18
Cut 6:12	decision-	19:19	director
cutlery 6:12	making 54:3	department	34:13
	deep 34:17	3:4 32:17,	35:11
	49:19	22	discharge
<hr/>	define 12:2,	depth 35:2	31:11
D	6	design 5:7	discharged
daily 24:3	defined	31:2,22,24	
		designated	
		9:5	

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5**Public Meeting on 08/08/2023****Index: discovered..excavation**

31:8 47:19	driven 15:19	5:25	environment
48:13	Dry 6:19	elected	16:11 19:9
discovered	dug 41:19	24:10,13	environmental
7:6 9:11	dump 28:8	electronically	34:13
discovery	dumped 28:11	24:14	EPA 2:3 3:5
7:10	38:23 50:8	elevated 4:7	4:16,22
disposal	dumps 28:22	11:17	5:11,19
17:20	46:23	elevation	15:7,16
19:24	dust 31:16	29:18	19:4 20:13
27:8,10	dying 23:25	eliminate	21:2 22:11
29:8	24:3	16:15	26:23
distances		email 20:23	31:12
30:25		33:5	41:25
distributed	E	encountering	EPA's 3:22
45:24	Eamonn 3:16	34:16	19:17 26:4
distributor	earlier	end 3:23	29:11
45:20	26:25	20:22	53:22
district	42:11 53:2	29:11	error 26:3
44:6	early 10:23	43:7,18	established
ditch 47:10, 17	26:19	53:17 54:1	16:12
documents	eastern	enhanced	estimation
20:25	43:7,18	8:19 9:7	37:11
dots 12:25	ecological	enlarged	evaluated
drainage	16:4,6	37:9	26:22
18:14	edge 12:15	ensure 31:16	evaluation
draw 28:19	Edison 6:5,	ensuring	15:14,17
30:23	21 8:7,16	31:14	evening 2:1
driller	effectively	entering	evidence
34:20	8:1	31:19	29:4
drinking	effectiveness	entertain	excavated
34:22	19:12,15	21:7	14:4 17:20
35:4,8,19	efficient	entire 6:9	19:24
		39:16	excavation
			8:18,20

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5

Public Meeting on 08/08/2023

Index: exceedances..gas

9:10 14:5	12:3 29:9	fence 22:2	flyer 39:23
17:15,18,		32:13	folks 3:1
23 18:1	<hr/> F <hr/>	field 2:5	follow 27:12
19:18,22		fields 47:18	29:10
20:2 25:10	facilities	figure 6:9	footprint
29:14,16	26:23	12:13	7:1
42:2	facility	13:12	forget 37:6
exceedances	6:11,15	17:23 35:3	42:14
42:5	7:12 10:6,	50:19	
excuse 50:8	21	51:20	formalizes
existing	fact 52:23	figures	20:14
17:17	facts 48:19	48:20	found 7:7
19:20 31:4	familiar	fill 17:22	8:23 13:22
expanded	50:16	19:25	16:5 18:3
37:6	faster 46:25	47:24	20:25 30:2
expect 36:8	fastest 6:1	filled	34:2
expense	feasibility	52:12,13	foundation
43:21	4:15 10:7	finalize 5:3	17:18
explain 2:15	11:19,22	25:18	19:21
23:21	federal 8:3	53:18	fourth 26:7
54:19	24:18	find 27:7	free 35:6
explaining	26:8,9,14	29:2,4	front 2:9
2:18	41:25	fine 49:1	41:5,8
exposure	45:19	fire 28:15	frost 18:12
9:18 15:23	feel 35:6	floor 17:17	functioning
16:16	41:11	19:21	49:7
exposures	feeling	flow 34:9	fund 44:10
16:6	33:11	36:4	45:2
extension	feet 29:20	fluctuations	funding 44:8
7:18	30:3,4,5,	30:18	funds 41:25
extensive	11,18,20	flushed	
50:25	32:12,13	31:21	<hr/> G <hr/>
extent 4:12	34:2,17		gas 12:10,
	44:11,14		

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5**Public Meeting on 08/08/2023****Index: general..in-depth**

13,22 13:2	38:25	hazardous	49:19
general 3:18	39:11	27:23 28:1	Horton's
4:2 13:6,8	44:24	29:5	27:20
generally	groundwater	hazards 28:3	house 23:13,
36:4 37:4	7:24 14:15	head 28:24	15,18
generate	16:15 27:1	48:24	39:12
28:3	29:3 30:16	health 3:4,	human 16:9,
geographic	33:20	13 16:10	10,16 19:9
5:23	34:8,9	19:9 28:3	hydraulic
Gillibrand's	36:3,9,12,	32:16,21	9:19 48:3,
24:19	18,23	34:13	7
give 2:12,	39:24	35:11	hydrogeology
19 21:11	42:3,23	hearing 5:18	12:6
33:4	46:20	heat 18:19,	
glues 27:24	51:5,12	21	I
goals 15:3	groundwater-	held 24:23	idea 35:3
16:9	monitored	hell 23:12	identified
good 2:1	42:6	helpful	8:5 26:24
35:3 40:20	groups 42:13	50:22	27:5 51:1
government	guys 50:12	high 15:19	identify
26:8,9,14	H	higher 22:13	21:9
47:4	halfway 43:6	36:21	impacts 36:2
graders	handle 10:9	highest	implementabili
34:23	hands 22:16	12:25	ty 19:16
green 6:13,	happening	13:3,10,22	important
18	33:8 42:9	18:2	5:16
grey 14:6	hard 12:24	highlighted	imported
Grossman	Haskell	12:15	17:22
50:7 52:9	23:11	history 7:5	improving
ground 6:3	39:10	10:19	47:15
22:23	hate 24:4	27:15	in-depth
23:4,7,16	hazard 31:17	43:10	4:11
36:18		hole 31:1	

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5**Public Meeting on 08/08/2023****Index: in-situ..live**

in-situ 9:1	institutional		late 11:1
10:16	7:23	K	37:13
18:5,17	intended	KAVX 6:17	41:24
51:3,11	49:8	11:21,23	laws 42:21
including	interim 10:2	26:10	layers 34:25
24:12,16	introduce	29:15	leaked 23:8
industrial	3:1	30:10,21	38:25
16:3	introduced	31:5 36:3,	leave 20:21
industry	3:11	6,8,9 37:3	46:3
27:25	investigation	40:7 41:3	leaving
influence	4:4,10,11,	48:4,10	31:19
34:24 35:5	14 7:5	kids 50:9	left 11:15
influences	11:20 12:1	52:15	14:21 15:6
36:9	29:12	kind 30:24	22:2
information	investigations	47:25	legend 12:24
24:24	3:20 12:9	50:20	legislator
27:12	involve	51:20,22	22:9
ingestion	17:6,10,16	53:1	level 4:6
15:25	18:6,11,18	kinds 50:8	29:24
inhalation	19:19	kitchen	levels 5:13
16:1	involved	28:12	13:3,10,22
initial 4:4	35:8	Kivowitz	15:4,20
initiation	involvement	3:14	Library 21:2
44:5	5:16	knives 50:11	limit 7:23
inside 45:6	ionization	52:16	list 2:11
installation	12:10	knowing	4:8,9
7:16	issue 54:15	41:12	listed 44:18
installed	issued 8:4,	46:11	listing
18:23	21	Kyocera 6:16	24:13
48:4,7		L	literature
installing	J	labs 45:3	36:17
17:10	job 48:22	larger 5:19	live 45:6

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5**Public Meeting on 08/08/2023****Index: lived..meetings**

46:18 52:9	low 5:13	managed 31:1	18,19
lived 50:6	lower 15:6	management	13:15
52:8	30:12	31:20	15:22 37:5
local 32:16	_____	manager 2:13	map 51:25
47:3,4	M	3:8	material
located 6:25	machine 11:7	Mannino 3:6	17:21,22
location	13:6,24	25:24	19:24
12:2 26:17	made 45:22	27:21	46:13
locations	47:13	28:9,13,21	matter 52:22
11:3	Maeve 2:13	30:1,4,6,	maximum
12:14,23	3:7,8,9	9,14	14:22
13:2,5,19	21:6 25:7	33:14,23	mayor 22:7
27:9 29:6	26:24	34:6 35:16	24:15
long 27:15	32:9,15,	36:22 37:2	Mazziotta
49:10	21,25 33:7	38:1,11,	3:13
long-term	51:15	14,17,20	
17:5,12	53:14,16,	39:4,21	Mcgraw 6:5,
19:11	22 54:5,25	40:19,22	21 8:7,16
longer 5:14	magnitude	41:10,18,	26:11
8:25	30:19	20,23	means 29:10
Loohn's 6:5,	mailing 2:11	43:2,9,20,	39:11
19 8:7,17	maintains	24 45:16	meant 33:24
26:7 38:16	5:12	46:10,16	measures
39:16	maintenance	47:2,16	31:18
41:16,18	11:7 13:7,	48:2,23	meet 45:18
42:10	25 49:11	49:2,16,20	meeting 8:3
looked 28:25	make 2:19	50:1,16	10:14,15
29:1	31:10	51:17 52:4	24:22,25
lot 15:5	33:15 35:9	53:12,15,	25:2 27:3
23:24 24:2	41:1,10	24 54:11,	50:19,24
27:19	49:6	23	51:19
30:14,16	makes 23:9	manufacturing	54:10
34:17 46:6	making 3:2	9:13,15,	meetings
		23,25	24:20,21
		10:5,20	
		11:4,13	
		12:4,16,	

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5**Public Meeting on 08/08/2023****Index: meets..Olean's**

meets 31:11	49:4,5	Nick 3:12	42:16,22
members 27:5	monitoring	no-action	notify 22:24
met 31:15	17:5,6,11,	16:23,24	nowadays
methods 8:9	12,13	NORM 29:23	35:2
12:8	30:16	30:2,5,7,	Number 53:21
MICHAEL 2:1	31:16	12 32:3,	
21:5,18	48:15	10,19,23	<hr/>
24:9 53:5,	month 42:9	33:6,11,	O
8 54:12	months	21,25	O'NEILL 3:16
middle 6:15	51:16,17	35:10,13,	03 49:24
migrate	move 18:10,	15 36:16,	objectives
18:10	19,22	24 37:25	16:9,19
migration	moves 46:25	40:17	occurring
16:14	moving 49:11	41:15,19,	17:9
Mike 2:2	mud 48:1	22 43:1,3,	off-site
3:10	municipal	12,22	17:19
million	7:8,17	44:2,12,23	19:23
13:11	<hr/>	45:25	office 24:20
14:24,25	N	46:15	officials
mind 27:21	names 28:22	51:25	24:11,13
33:18 34:4	national	52:11,20,	offline
minimums	4:8,9	25 53:7,9,	51:19
35:1	naturally	13,20	Olean 2:5,6
mobility	17:8	north 12:17	6:1 7:19
19:13	nearby 7:8	13:14 36:5	10:20
mobilize	31:17	37:15	21:2,20
18:19	needed 5:14	40:14	22:4,5,7,
modifications	35:9 37:10	northern	13 23:11
54:7	neighbors	40:10	26:17,18
Moeller 3:15	22:10	notable 14:2	29:12
money 46:5	nice 40:17	nothing's	39:10
monitor 42:3		33:7	46:19
		notification	Olean's 31:8
		25:9,21	
		notifications	

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5**Public Meeting on 08/08/2023****Index: online..Pete**

online	20:25	37:11	oxidation	performing
open	4:25	42:15	9:2 10:17	31:13
opened	10:21	OU1 6:2		period 4:24
opens	4:24	OU2 6:3,13,	P	5:2,6
operable		18 8:4	parcel 6:6	20:17
5:21 6:2		9:17 15:13	51:10	25:16
9:5 37:21		27:4 48:6	parcels 51:9	53:17
51:10	OU3 6:5,14		part 14:4	periodic
operates	9:5		15:12,14	45:20
5:11 48:17	OU4 6:6,18		22:14	periodically
operating	10:12		37:10,21	31:10
49:7	OU5 4:22		42:15 48:5	42:12
operation	6:7,18,23		parties	permanence
49:5,10	10:18		26:5,13	19:12
operations	12:2,9		parts 13:11	permanently
7:12 10:5	16:7,13		14:24,25	20:2
11:13	outline		past 29:2	personally
47:19	12:20		pathways	24:2
opportunity	13:14,16		12:7	pertains
2:12,19	17:24		Paul 21:19	26:4 39:23
options 3:22	outlined		pay 45:15	Pete 3:6
10:11	14:6		PCE 10:25	25:24
orange 6:14	oversee		14:18 23:6	27:21
order 7:13,	26:10		people 22:11	28:9,13,21
20 10:8	overseeing		23:25 24:2	30:1,4,6,
12:6 30:19	26:4		percent	9,14
organic	overseen		41:25	33:14,23
46:12	26:13		performance	34:6 35:16
47:25	oversight		32:2	36:22 37:2
orient 12:14	23:1,22,23		performed	38:1,11,
original	26:2,4,15		15:12,14	14,17,20
15:13	31:13		42:2	39:4,21
26:20	owned 6:12,			40:19,22
	16,21			41:10,18,
				20,23

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5**Public Meeting on 08/08/2023****Index: phase..property**

43:2,9,20,	53:18	26:12	previously
24 45:16	planning	27:25	8:24 9:4,
46:10,16	4:20	pour 23:3	11 28:25
47:2,16	plant 9:25	powder 11:11	prior 22:21
48:2,23	23:5 28:6	Power 6:22	priority
49:2,16,20	31:5 37:5	Powerpoint	4:8,9
50:1,16	38:22	2:14	private 7:9,
51:17 52:4	39:14	practices	22
53:12,15,	43:16	31:20	process 3:18
24 54:11,	44:16	predates	4:1 5:15
13,23	47:19	26:19	10:8 54:3
phase 2:15	48:12	preferred	processes
4:21 5:8	plenty 45:3	3:22 19:17	17:9
19:1 31:22	point 8:14	53:23 54:4	produced
49:9,12,13	25:15,19	preliminary	10:22
photo 12:9	26:16	4:3	producing
picked 9:17	34:10 37:8	prepare	35:19
piece 26:2	41:11 43:1	20:13	profile
ping-ponged	51:14,21	presentation	12:12 14:7
33:16	points 12:22	2:14,20	program
pink 12:25	26:1 28:21	11:5 20:24	17:12
17:25 32:7	38:4	21:14	progress
piped 18:24	popped 13:3	44:18	8:11
place 31:21	pose 16:8	presentations	project 2:13
39:2 43:12	31:17	3:2	3:7 49:12
44:21	position	presented	promote
54:23	40:24	54:5	18:13
places 13:23	potential	press-release	properties
plan 2:5,15	12:7 14:17	54:18	16:20 48:5
4:23 10:15	15:9	pretty 52:20	property
11:24	16:16,21	previous	6:7,8 7:2
20:12	26:21	13:5	9:16 29:15
25:10,12,	27:6,10,16		30:10,21
13,21	potentially		

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5**Public Meeting on 08/08/2023****Index: proposed..reduce**

31:6 36:6,	25:20		4:25 11:8
10 37:3		R	13:8 14:1
40:8,11,	pull 50:19		48:9
15,16	pulled 48:11	radiation	
41:3,14	pump 8:17	18:18	recognize
42:7,10,	pumped 8:2	railroad	40:23
18,25 43:7	pumping 9:19	37:20,23	41:2,14
44:8,13,14	punch 43:16	46:20	recommend
50:18		47:23 50:5	32:16
51:1,8	purpose	52:1,7	recommendation
proposed	23:24	rain 46:6	s 35:9
2:4,15	purview 47:7	rainbows	recommending
4:20,23		46:7	2:16
10:15	put 21:12	ran 50:3,4	reconstruction
11:24	23:6 28:16	range 13:10	7:2
17:23,25	29:25 46:4	14:23	record 4:20
20:12 25:9	47:10,13,		5:4 7:14
protect 16:9	21	ranked 4:9	8:8 10:13
18:13		RAOS 16:12	12:21
protection	Q	reach 32:25	13:18
19:8	quality 34:8	35:6	20:13
provide	42:4 45:13	Reading 52:7	21:3,13
27:11	quarterly	real 38:9	31:23 48:6
PRP 31:13	45:21	realtor	53:19
42:12	question	42:20	54:15,16,
PRPS 26:13	22:19	rear 41:5	20,24
public 2:17	24:10	receive	recorded
4:24 5:6	34:12	20:18	9:21 25:19
7:21 20:16	49:22 53:6	24:23,24	records
21:2,13	questions	42:13	20:15 27:8
25:16 27:3	2:20 3:24	45:18	recovery
53:17,25	5:1,5	received 5:5	8:19
54:8,19	21:4,7,13,	20:16	red 6:18
published	17,21 24:7	receiving	12:25
7:15 10:12	26:1 53:4		reduce 16:13

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5**Public Meeting on 08/08/2023****Index: reduced..running**

reduced 17:8	remedy 5:9,	37:1	39:6 40:20
reduction	11,12	residential	41:9 45:5,
19:12	8:16,24	7:9	9,14 54:9,
reel 11:10	9:1,6,17	residents	22
refer 33:13	10:1,2,15	7:13,20	rid 23:7
	14:5 20:15	31:17	Ring 3:3
regular	54:6	resistors	34:4,11,12
45:12	remember	10:23	35:12,14,
regulations	13:4 28:23	respect 20:7	15 44:3,17
16:23	remind 33:6	26:16 27:4	45:1,8,11
related 40:7	removal	29:13	risk 3:13
46:13	17:16	40:1,12	15:8,11,
relates	19:20	42:16,22	13,19
50:23	remove 17:4	48:10	16:4,8
release	removes 20:3	responsible	risks 15:9,
53:19	removing	26:5,13	23
released	50:14	restoration	river 23:12
25:12	report 45:13	17:21	36:7 39:11
releases	representative	19:25	road 39:10
4:22 27:8	33:17	restrict	43:13
releasing	43:25 44:4	7:24	rod 7:22
11:23	representative	result 7:10	8:4,20
relevant	s 24:16,21	results	9:7,17
19:10	47:4	15:7,16	15:13,15
remedial	request 32:3	review	27:4
2:13 3:7	require	25:13,17	rolling 44:1
4:10,14	16:24	54:14	rollout 2:5
5:7 16:8	required 8:8	Richard	roughly
31:22	45:11,18	21:16,19	43:17
remediate	requirements	25:3,23	run 43:5
15:5	19:11	27:17	running 8:15
remediation	31:11	28:4,10,14	
15:3 17:2,	residences	38:8,12,	
3 20:4		15,18,21	

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5**Public Meeting on 08/08/2023****Index: safety..slab**

	32:5	service 7:11	signing 2:10
S			
	screening	shaded 37:12	similar
safety 31:18	12:10, 11,	share 29:8	13:23
sample	14, 23 13:2	48:25	similarly
14:10, 12	sections	Sharon 3:14	9:9 13:13,
40:25	5:23	Shawmut 52:1	22
41:1, 13	sediment	She'll 2:14,	simple 2:8
45:4	16:7	18	sink 28:12
sampled	selected	shop 11:7	sir 21:15
31:10	8:24 9:2, 7	13:7, 24	53:8
37:19	10:16	short 20:4	site 2:6
42:12	54:4, 6	short-term	3:12, 14,
samples	selection	19:15	19, 20 4:5,
13:13, 21	20:1, 14	shortly	7, 8, 13, 19
14:7, 10,	sell 23:15	10:25	6:10, 23
12, 14 38:6	42:17, 18	show 37:23	7:4 8:6
sampling	semi 14:15	45:23	9:6, 9
12:8, 11, 12	semi-annual	50:20	14:18
13:20	45:22	showed 38:7	16:16
14:9, 15	senator	shown 37:12	20:24
36:13	24:17, 19	shows 32:6	21:22
37:21 42:8	send 24:14,	46:3	24:12 27:1
45:21	15, 21	shut 7:11	29:13
47:14, 15	Seneca 21:24	side 37:22	36:2, 12
50:25	23:14 43:5	40:11	site's 21:1
sandy 34:3	46:18	52:2, 6, 8	site-sampling
saturated	sense 23:9	sign 2:10	15:7
38:2	44:5	signed	site-specific
scheduled	separation	54:17, 21	16:11
51:13, 15	19:1	significant	sites 5:20
Schumer	September	30:24 40:5	21:21
24:19	54:17		24:12
scope 30:22			slab 11:15
screen 20:21			15:21

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5**Public Meeting on 08/08/2023****Index: slapped..suggest**

17:17	solidified	stand 2:23	2:22, 25
19:20	18:7	standards	21:12
slapped	solve 47:6	8:3 31:14	22:12
22:15	source 6:4, 7	45:19	steps 20:10
slide 3:25	8:5, 10, 12,	Stanley	Steve 3:15
13:5	15 12:20	46:17	stopped 43:6
snapshot	13:17	47:9, 21	storage
27:14	26:6, 7, 21	48:18	11:9, 10, 11
soil 6:25	27:6, 11	49:1, 14,	13:9 14:1
11:18	sources 8:13	17, 21 50:2	storm 18:13
12:10, 11,	26:25	52:5, 13, 22	straight
13, 22	36:11	53:3	44:16
13:1, 13, 21	south 6:6	start 4:10	street
14:22	9:14, 17	28:18	21:20, 24
15:2, 11,	36:5 37:4	44:22	36:10
20, 24	40:9	54:10	structure
16:7, 14,	southeast	started 7:12	37:9
17, 19	11:6 14:3	10:7	studies 8:23
17:4, 8, 19	southerly	starting	study 4:15
18:5, 20, 22	37:17	25:11	10:8
19:23, 24	southern	starts 4:2	11:19, 20
20:3 29:3,	37:22 52:6	state 2:23	stuff 43:16
14 30:15	speak 47:3	3:16 8:3	50:9, 10
32:4 33:20	specific	16:18 19:6	52:16, 18
36:25	29:7 40:12	24:16, 17	substances
37:2, 23	specifically	26:22	28:1
39:24	9:12 41:12	42:1, 21	substantially
40:1, 6, 8,	specifications	44:7 45:2,	15:18
13, 25	31:25	19	successful
41:4, 13	spell 2:24	State's	9:1 10:4
42:2, 24	21:10	29:12	suggest
51:2, 6	spots 32:7	statement	36:13
soils 6:8	Stan 45:6	39:22	
solid 18:8		stenographer	
solidification			
18:6			

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5

Public Meeting on 08/08/2023

Index: summer..tracks

summer 10:14	takes 20:15	tested 32:4	3 21:3,6,
Superfund	taking 2:7	33:20	14 42:19
3:18 4:1	talk 43:24	44:24	46:5 48:17
5:20 6:10	44:3	50:13	53:2
16:23	51:18,20	testing 18:3	timeframe
24:12	talking 3:17	32:18 35:7	20:4 41:21
29:13	6:24 21:22	45:2,12,14	timeframes
supervisor	38:10	50:12	37:7
22:8 24:15	41:15	tests 46:1	today 27:14
supply 7:8,	42:11	thereabout	29:11
21 35:20,	46:8,19	29:20	told 22:20
22	47:16 48:3	thermal	38:8
supports	50:21	18:17	toluene
17:18	tap 45:18	thing 22:16,	14:20
19:21	tape 11:10	25 23:23	tonight 2:8
surface	TCA 11:1	28:17,18	3:10,11,17
18:24,25	14:19	38:9	5:18 6:24
34:18,19,	TCE 10:23	things 33:9	20:18
24 35:6	14:18 15:1	35:1	top 28:23
switched	24:5 38:9	thinking	48:24
10:24	39:3,12	50:12	52:24
system 9:20	team 3:5,12	thought 9:4	tore 21:23
31:9 48:16	tear 22:22,	throwing	totality
49:3,7	23	29:21	54:1
Systems 6:22	technologies	tile 22:13	touched 22:3
	51:3	26:17,18	town 7:19
T	technology	27:18,22,	22:4,8
table 14:22	4:17	25 28:2	43:11,25
15:1,6	telling	38:22	44:3
29:17	23:14	39:14	toxicity
30:8,10	term 49:10	Tim 27:20	19:13
38:3	test 10:8	time 2:7,25	tracks
tad 30:12	44:20	3:1,24	37:20,23
36:21		9:21 10:1,	

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5

Public Meeting on 08/08/2023

Index: tradeoffs..wells

46:21	typically	36:8	23,25 31:3
47:11,23	27:22		33:22
50:5	35:18 49:2	v	34:2,15,
tradeoffs			19,21,22,
20:6	U	vacuum 8:18	24 35:4,8,
trans 14:19	underneath	valid 41:11	19,20 38:3
transport	9:12,22	verbal 20:17	44:6,24
12:8	15:21	vertical	45:13,14,
transportation	18:12	12:12 14:7	17,20
17:20	21:25	view 25:15	46:1,7,25
19:23	23:4,17	vinyl 14:20,	47:8,12,18
trap 18:9	39:12	24	48:11
treat 8:17	49:25		waterline
treatability	understand	VOC 16:14	7:19 43:4,
11:20	23:19,20	VOCS 42:5	11 45:10
treated	24:7 25:4	volume 19:13	Weber 21:16,
18:12,25	40:22		19 25:3,23
19:1 48:11	41:2,9	W	27:17
	42:21		28:4,10,14
treatment	undeveloped	wait 43:15	38:8,12,
7:11 18:14	9:14	45:25	15,18,21
19:14	unit 9:5	53:24	39:6 40:20
31:4,9	37:22	walked 49:18	41:9 45:5,
35:23	51:10	wanted 44:9	9,14 54:9,
48:12	units 5:21	waste 27:23	22
51:3,11	6:2	29:5	webpage 21:1
trench 9:19	unload 43:13	watched	website
47:22	unsaturated	49:18	54:25
48:4,7	17:19	water 6:3	weeded 22:1
trucks 31:19	19:22	7:11,13,21	week 25:12
43:13	38:2,6	8:1 14:9,	well-field
type 4:4,12	update 25:1	11 18:14	29:13
types 4:17	39:23	23:17	wells 7:8,9,
5:22	upgradient	29:17	10,17,22
		30:2,7,10,	17:11

OLEAN WELL FIELD SUPERFUND SITE: OPERABLE UNIT 5**Public Meeting on 08/08/2023****Index: Wesley..zooming**

18:23	wrong	39:6	zooming	6:22
30:16				
35:20,22	Wurtz	2:13		
42:6		3:7,9	25:7	
Wesley		32:9,15,		
46:17,18		21,25	33:7	
47:9,21		51:15		
48:18		53:14,16,		
49:1,14,		22		
17,21	50:2			
52:5,13,22		x		
53:3	xylene	14:20		
wondering				
48:19		y		
49:15				
wooded	9:14	yard	46:13	
work	8:22	year	24:23	
26:5,11		31:7	48:9	
29:10		49:5		
30:22		years	23:6	
31:6,9,14,		28:11,15,		
25	32:2	17	29:25	
33:14	48:8	40:5	41:22	
49:9	51:11	yellow	12:15	
workers	16:2	17:25	32:8	
31:18		York	2:6	
working	8:1	3:16	16:18	
world	24:6	21:20	22:6	
worst	24:5	26:22		
32:6		29:11		
worth	50:14	42:1,21		
write	20:22	46:19		
written				
20:11,19		zone	18:15	
		38:2,3,6		

ATTACHMENT D

WRITTEN COMMENTS

From: Patrick Vecchio [REDACTED] FOIA Exemption 6
Date: July 27, 2023 at 9:36:36 PM EDT
To: "Basile, Michael" <Basile.Michael@epa.gov>
Subject: Olean well field Superfund

Good evening, Mike.

In looking at the EPA website about the Olean Well Field Superfund site, I found this sentence in the "site background":

The Allegheny River and two of its tributaries, the Olean and Haskell creeks, flow through the site.

The map on the website, though, does not show the Haskell Creek within the boundaries of OU1. This is of interest to me because I live between the map's eastern boundary for OU1 and the Haskell Creek. Haskell Creek is perhaps a quarter mile from my house.

It seems to me that either the sentence in the site background or the map boundary is incorrect, which leads me to ask this question: Is it possible my private water well is drawing water that has been polluted by the PRPs? If the answer is "yes," then what should I do? The well is my sole source of water.

Thank you for your attention to my question.

Patrick Vecchio

[REDACTED] FOIA Exemption 6

U.S. v. Kyocera AVX Components Corporation (W.D.N.Y.)
Consent Decree Regarding Olean Wellfield Superfund Site
Appendix B
Statement of Work

OLEAN WELL FIELD SUPERFUND SITE
OPERABLE UNIT 5 – AVX PROPERTY
REMEDIAL DESIGN/REMEDIAL ACTION STATEMENT OF WORK
TABLE OF CONTENTS

1.	INTRODUCTION	2
2.	COMMUNITY INVOLVEMENT	2
3.	COORDINATION AND SUPERVISION	4
4.	REMEDIAL DESIGN	5
5.	REMEDIAL ACTION.....	8
6.	REPORTING	12
7.	DELIVERABLES.....	13
8.	SCHEDULES	18
9.	STATE PARTICIPATION.....	20
10.	REFERENCES	20

1. INTRODUCTION

- 1.1 Purpose of SOW.** This SOW sets forth the procedures and requirements for implementing the Work.
- 1.2 Structure of the SOW**
- Section 2 (Community Involvement) sets forth EPA’s and Settling Defendant’s responsibilities for community involvement.
 - Section 3 (Coordination and Supervision) contains the provisions for selecting the Supervising Contractor and Project Coordinators regarding the Work.
 - Section 4 (Remedial Design) sets forth the process for developing the Remedial Design, which includes the submission of specified primary deliverables.
 - Section 5 (Remedial Action) sets forth requirements regarding the completion of the Remedial Action, including primary deliverables related to completion of the Remedial Action.
 - Section 6 (Reporting) sets forth Settling Defendant’s reporting obligations.
 - Section 7 (Deliverables) describes the contents of the supporting deliverables and the general requirements regarding Settling Defendant’s submission of, and EPA’s review of, approval of, comment on, and/or modification of, the deliverables.
 - Section 8 (Schedules) sets forth the schedule for submitting the primary deliverables, specifies the supporting deliverables that must accompany each primary deliverable, and sets forth the schedule of milestones regarding the completion of the Remedial Action.
 - Section 9 (State Participation) addresses State participation.
 - Section 10 (References) provides a list of references, including URLs.
- 1.3** The Scope of the Remedy includes the actions described in Section 12 of the Record of Decision.
- 1.4** The terms used in this SOW that are defined in CERCLA, in regulations promulgated under CERCLA, or in the Consent Decree (“Decree”), have the meanings assigned to them in CERCLA, in such regulations, or in the Decree, except that the term “Paragraph” or “¶” means a paragraph of the SOW, and the term “Section” means a section of the SOW, unless otherwise stated.

2. COMMUNITY INVOLVEMENT

- 2.1** As requested by EPA, Settling Defendant shall conduct community involvement activities under EPA’s oversight as provided for in, and in accordance with this Section. Such activities must include designation of a Community Involvement Coordinator (“CI Coordinator”).

2.2 Community Involvement Responsibilities

- (a) EPA has the lead responsibility for developing and implementing community involvement activities at the Site. EPA developed a Community Involvement Plan (“CIP”) for OU5 of the Site. In accordance with 40 C.F.R. § 300.435(c), EPA shall review the existing CIP and determine whether it should be revised to describe further public involvement activities during the Work that are not already addressed or provided for in the existing CIP.
- (b) **Settling Defendant’s CI Coordinator.** As requested by EPA, Settling Defendant shall, within 30 days, designate and notify EPA of Settling Defendant’s CI Coordinator (Settling Defendant’s CI Coordinator). Settling Defendant may hire a contractor for this purpose. Settling Defendant’s notice must include the name, title, and qualifications of the Settling Defendant’s CI Coordinator. Settling Defendant’s CI Coordinator shall coordinate his/her activities with EPA’s CI Coordinator, provide support regarding EPA’s community involvement activities, and, as requested by EPA’s CI Coordinator, provide draft responses to the public’s inquiries including requests for information or data about the AVX Property and OU5. The Settling Defendant’s CI Coordinator has the responsibility to ensure that when they communicate with the public, the Settling Defendant protects any “Personally Identifiable Information” (“PII”) (e.g. sample results from residential properties) in accordance with “EPA Policy 2151.0: Privacy Policy.”
- (c) As requested by EPA, Settling Defendant shall participate in community involvement activities, including participation in public meetings that may be held or sponsored by EPA to explain activities at or relating to the AVX Property and OU5 (with interpreters present for community members with limited English proficiency). Settling Defendant’s support of EPA’s community involvement activities may include providing online access to initial submissions and updates of deliverables to: (1) any Community Advisory Groups, (2) any Technical Assistance Grant (“TAG”) recipients and their advisors, and (3) other entities to provide them with a reasonable opportunity for review and comment. EPA may describe in its CIP Settling Defendant’s responsibilities for community involvement activities. All community involvement activities conducted by Settling Defendant at EPA’s request are subject to EPA’s oversight. Upon EPA’s request, Settling Defendant shall establish, as early as is feasible, a community information repository at or near the Site, as provided in the CIP, to house one copy of the administrative record.
- (d) **Information for the Community.** As requested by EPA, Settling Defendant shall develop and provide to EPA information about the design and implementation of the remedy including: (1) any validated data from monitoring of impacts to communities as provided in the Community Impacts Mitigation Plan under ¶ 7.7(e); (2) a copy of the Community Impacts Mitigation Plan required under ¶ 7.7(e); (3) schedules prepared under Section 8; (4) dates that Settling Defendant completed each task listed in the schedules; and (5) digital photographs of the Work being performed, together with descriptions of the Work depicted in each photograph, the purpose of the Work,

the equipment being used, and the location of the Work. The EPA Project Coordinator may use this information for communication to the public via EPA's website, social media, or local and mass media. The information provided to EPA should be suitable for sharing with the public and the education levels of the community as indicated in EJ Screen. Translations should be in the dominant language(s) of community members with limited English proficiency.

3. COORDINATION AND SUPERVISION

3.1 Project Coordinators

- (a) Settling Defendant's Project Coordinator must have sufficient technical expertise to coordinate the Work. Settling Defendant's Project Coordinator may not be an attorney representing Settling Defendant in this matter and may not act as the Supervising Contractor. Settling Defendant's Project Coordinator may assign other representatives, including other contractors, to assist in coordinating the Work.
- (b) EPA shall designate and notify the Settling Defendant of EPA's Project Coordinator. EPA may designate other representatives, which may include its employees, contractors, and/or consultants, to oversee the Work. EPA's Project Coordinator will have the same authority as a remedial project manager and/or an on-scene coordinator, as described in the National Oil and Hazardous Substances Pollution Contingency Plan ("NCP"). This includes the authority to halt the Work and/or to conduct or direct any necessary response action when it is determined that conditions at the AVX Property constitute an emergency or may present an immediate threat to public health or welfare or the environment due to a release or threatened release of Waste Material.
- (c) Settling Defendant's Project Coordinator shall communicate with EPA's Project Coordinator at least monthly.

3.2 **Supervising Contractor.** Settling Defendant's proposed Supervising Contractor must have sufficient technical expertise to supervise the Work and a quality assurance system that complies with the most recent version of *Quality Systems for Environmental Data and Technology Programs -- Requirements with Guidance for Use* (American National Standard), ANSI/ASQC E4 (Feb. 2014).

3.3 **Procedures for Disapproval/Notice to Proceed**

- (a) Settling Defendant shall designate, and notify EPA, within 30 days after the Effective Date, of the names, titles, contact information, and qualifications of the Settling Defendant's proposed Project Coordinator and Supervising Contractor, whose qualifications shall be subject to EPA's review for verification based on objective assessment criteria (*e.g.*, experience, capacity, technical expertise) and do not have a conflict of interest with respect to the project.

- (b) EPA shall issue notices of disapproval and/or authorizations to proceed regarding any proposed Project Coordinator and Supervising Contractor, as applicable. If EPA issues a notice of disapproval, Settling Defendant shall, within 30 days, submit to EPA a list of supplemental proposed Project Coordinators and/or Supervising Contractors, as applicable, including a description of the qualifications of each. Settling Defendant may select any coordinator/contractor covered by an authorization to proceed and shall, within 30 days, notify EPA of Settling Defendant's selection.
- (c) EPA may disapprove the proposed Project Coordinator, the Supervising Contractor, or both, based on objective assessment criteria (*e.g.*, experience, capacity, technical expertise), if they have a conflict of interest regarding the project, or any combination of these factors.
- (d) Settling Defendant may change its Project Coordinator and/or Supervising Contractor, or both, by following the procedures of ¶¶ 3.3(a) and 3.3(b).

4. REMEDIAL DESIGN

4.1 Remedial Design Work Plan ("RDWP"). Settling Defendant shall submit a RDWP for EPA approval. The RDWP must include:

- (a) Plans for implementing all Remedial Design activities identified in this SOW, in the RDWP, or required by EPA to be conducted to develop the Remedial Design;
- (b) A description of the overall management strategy for performing the Remedial Design, including a proposal for phasing of design and construction, if applicable;
- (c) A description of the proposed general approach to contracting, construction, operation, maintenance, and monitoring (O&M) of the Remedial Action as necessary to implement the Work;
- (d) A description of the responsibility and authority of all organizations and key personnel involved with the development of the Remedial Design;
- (e) Descriptions of any areas requiring clarification and/or anticipated problems (*e.g.*, data gaps);
- (f) Description of any proposed pre-design investigation;
- (g) Descriptions of any applicable permitting requirements and other regulatory requirements;
- (h) Description of plans for obtaining access in connection with the Work, such as property acquisition, property leases, and/or easements; and

- (i) The following supporting deliverables described in ¶ 7.7 (Supporting Deliverables): Health and Safety Plan, Emergency Response Plan, Field Sampling Plan, and Quality Assurance Project Plan.

4.2 Settling Defendant shall communicate regularly with EPA to discuss design issues as necessary, as directed or determined by EPA.

4.3 Pre-Design Investigation (“PDI”). The purpose of the PDI is to address data gaps by conducting additional field investigations.

- (a) **PDI Work Plan.** Settling Defendant shall submit a PDI Work Plan (“PDIWP”) for EPA approval, if EPA requests or if the Defendant deems a PDI necessary. The PDIWP must include:

- (1) An evaluation and summary of existing data and description of data gaps;
- (2) A sampling plan including media to be sampled, contaminants or parameters for which sampling will be conducted, location (areal extent and depths), and number of samples; and
- (3) Cross references to quality assurance/quality control (“QA/QC”) requirements set forth in the Quality Assurance Project Plan (“QAPP”) as described in ¶ 7.7(d).

- (b) Following the PDI, Settling Defendant shall submit a PDI Evaluation Report for approval. This report must include:

- (1) Summary of the investigations performed;
- (2) Summary of investigation results;
- (3) Summary of validated data (*i.e.*, tables and graphics);
- (4) Data validation reports and laboratory data reports;
- (5) Narrative interpretation of data and results;
- (6) Results of statistical and modeling analyses;
- (7) Photographs documenting the work conducted; and
- (8) Conclusions and recommendations for Remedial Design, including design parameters and criteria.

- (c) EPA may require Settling Defendant to supplement the PDI Evaluation Report and/or to perform additional pre-design studies.

4.4 Preliminary (30%) Remedial Design. Settling Defendant shall submit a Preliminary (30%) Remedial Design for EPA's comment. The Preliminary Remedial Design must include:

- (a) A design criteria report, as described in the *Remedial Design/Remedial Action Handbook*, EPA 540/R-95/059 (June 1995);
- (b) Preliminary drawings and specifications;
- (c) Descriptions of permit requirements, if applicable;
- (d) A description of how the Remedial Action will be implemented in a manner that minimizes environmental impacts in accordance with EPA's *Principles for Greener Cleanups* (Aug. 2009) and EPA Region 2's Clean and Green Policy;
- (e) A description of monitoring and control measures to protect human health and the environment, such as air monitoring, and measures to reduce and manage traffic, noise, odors, and dust, during the Remedial Action in accordance with the Community Involvement Handbook pp. 53-66 (text box on p. 55) to minimize community impacts;
- (f) Any proposed revisions to the Remedial Action Schedule that is set forth in ¶ 8.3 (Remedial Action Schedule); and
- (g) Updates of all supporting deliverables required to accompany the RDWP and the following additional supporting deliverables described in ¶ 7.7 (Supporting Deliverables): Site Wide Monitoring Plan; Community Impacts Mitigation Plan, Construction Quality Assurance/Quality Control Plan; and Transportation and Off-Site Disposal Plan..

4.5 Intermediate (60%) Remedial Design. If EPA requests, Settling Defendant shall submit the Intermediate (60%) Remedial Design for EPA's comment. The Intermediate Remedial Design must: (a) be a continuation and expansion of the Preliminary Remedial Design; (b) address EPA's comments regarding the Preliminary Remedial Design; and (c) include the same elements as are required for the Preliminary (30%) Remedial Design.

4.6 Pre-final (95%) Remedial Design. Settling Defendant shall submit the Pre-final (95%) Remedial Design for EPA's comment. The Pre-final Remedial Design must be a continuation and expansion of the previous design submittal and must address EPA's comments regarding the previous design submittal. The Pre-final Remedial Design will serve as the approved Final (100%) Remedial Design if EPA approves the Pre-final Remedial Design without comments. The Pre-final Remedial Design must include:

- (a) A complete set of construction drawings and specifications that are: (1) certified by a registered professional engineer licensed in New York; (2) suitable for

procurement; and (3) follow the Construction Specifications Institute's MasterFormat 2020 or a later edition;

- (b) A survey and engineering drawings showing existing AVX Property features, such as elements, property borders, easements, and AVX Property conditions;
- (c) Pre-final versions of the same elements and deliverables as are required for the previous design submittal;
- (d) A specification for photographic documentation of the Remedial Action; and
- (e) Updates of all supporting deliverables required to accompany the Preliminary (30%) Remedial Design.

4.7 Final (100%) Remedial Design. Settling Defendant shall submit the Final (100%) Remedial Design for EPA approval. The Final Remedial Design must address EPA's comments on the Pre-final Remedial Design and must include final versions of all Pre-final Remedial Design deliverables.

5. REMEDIAL ACTION

4.1 Remedial Action Work Plan ("RAWP"). Settling Defendant shall submit a RAWP for EPA approval that includes:

- (a) A proposed Remedial Action Construction Schedule Gantt chart; and
- (b) An updated health and safety plan that covers activities during the Remedial Action.

5.2 Meetings and Inspections

- (a) **Preconstruction Conference.** Settling Defendant shall hold a preconstruction conference with EPA and others as directed or approved by EPA and as described in the *Remedial Design/Remedial Action Handbook*, EPA 540/R-95/059 (June 1995). Settling Defendant shall prepare minutes of the conference and shall distribute the minutes to all Parties.
- (b) **Periodic Communications.** During the construction portion of the Remedial Action (Remedial Action Construction), Settling Defendant shall communicate monthly with EPA, and others as directed or determined by EPA, to discuss construction issues. Settling Defendant shall distribute an agenda and list of attendees to all Parties prior to each meeting or telephone call. Settling Defendant shall prepare minutes of the meetings or calls and shall distribute the minutes to all Parties.

(c) **Inspections**

- (1) EPA or its representative shall conduct periodic inspections of or have an on-property presence during the Work. At EPA's request, the Supervising Contractor or other designee shall accompany EPA or its representative during inspections.
- (2) Upon notification by EPA of any deficiencies in the Remedial Action Construction, Settling Defendant shall take all necessary steps to correct the deficiencies and/or bring the Remedial Action Construction into compliance with the approved Final Remedial Design, any approved design changes, and/or the approved RAWP. If applicable, Settling Defendant shall comply with any schedule provided by EPA in its notice of deficiency.

5.3 Permits

- (a) As provided in CERCLA § 121(e), and Section 300.400(e) of the NCP, no permit is required for any portion of the Work conducted entirely on-site (*i.e.*, within the areal extent of contamination or in very close proximity to the contamination and necessary for implementation of the Work). Where any portion of the Work that is not on-site requires a federal or state permit or approval, Settling Defendant shall submit timely and complete applications and take all other actions necessary to obtain all such permits or approvals.
- (b) Settling Defendant may seek relief under the provisions of Section **XI** (Force Majeure) of the Decree for any delay in the performance of the Work resulting from a failure to obtain, or a delay in obtaining, any permit or approval referenced in ¶ 5.3(a) and required for the Work, provided that submitted timely and complete applications and taken all other actions necessary to obtain all such permits or approvals.
- (c) Nothing in the Decree or this SOW constitutes a permit issued under any federal or state statute or regulation.

5.4 Emergency Response and Reporting

- (a) **Emergency Action.** If any event occurs during performance of the Work that causes or threatens to cause a release of Waste Material on, at, or from the AVX Property and that either constitutes an emergency situation or that may present an immediate threat to public health or welfare or the environment, Settling Defendant shall: (1) immediately take all appropriate action to prevent, abate, or minimize such release or threat of release; (2) immediately notify the authorized EPA officer (as specified in ¶ 5.4(c)) orally; and (3) take such actions in consultation with the authorized EPA officer and in accordance with all

applicable provisions of the Health and Safety Plan, the Emergency Response Plan, and any other deliverable approved by EPA under the SOW.

- (b) **Release Reporting.** Upon the occurrence of any event during performance of the Work that Settling Defendant is required to report under CERCLA § 103 or Section 304 of the Emergency Planning and Community Right-to-Know Act (“EPCRA”), Settling Defendant shall immediately notify the authorized EPA officer orally.
- (c) The “authorized EPA officer” for purposes of immediate oral notifications and consultations under ¶ 5.4(a) and ¶ 5.4(b) is the EPA Project Coordinator at (212) 637-4230, the Chief of the Western New York Remediation Section at (212) 637-4287 (if the EPA Project Coordinator is unavailable), or the National Response Center at (800) 424-8802 (if neither EPA Project Coordinator or Section Chief is available).
- (d) For any event covered by ¶ 5.4(a) and ¶ 5.4(b), Settling Defendant shall:
 - (1) within 14 days after the onset of such event, submit a report to EPA describing the actions or events that occurred and the measures taken, and to be taken, in response thereto; and
 - (2) within 30 days after the conclusion of such event, submit a report to EPA describing all actions taken in response to such event.
- (e) The reporting requirements under ¶ 5.4 are in addition to the reporting required by CERCLA § 103 or EPCRA § 304.

5.5 Off-Site Shipments

- (a) Settling Defendant may ship hazardous substances, pollutants, and contaminants from the Site to an off-Site facility only if it complies with CERCLA § 121(d)(3), and 40 C.F.R. § 300.440. Settling Defendant will be deemed to be in compliance with CERCLA § 121(d)(3) and 40 C.F.R. § 300.440 regarding a shipment if Settling Defendant obtains a prior determination from EPA that the proposed receiving facility for such shipment is acceptable under the criteria of 40 C.F.R. § 300.440(b).
- (b) Settling Defendant may ship Waste Material from the AVX Property to an out-of-state waste management facility only if, prior to any shipment, provides notice to the appropriate state environmental official in the receiving facility’s state and to the EPA Project Coordinator. This notice requirement will not apply to any off-property shipments when the total quantity of all such shipments does not exceed 10 cubic yards. The notice must include the following information, if available: (1) the name and location of the receiving facility; (2) the type and quantity of Waste Material to be shipped; (3) the schedule for the shipment; and (4) the method of transportation. Settling Defendant also shall notify the state environmental official referenced above and the EPA Project Coordinator of any major changes in the shipment plan, such as a decision to ship the Waste Material

to a different out-of-state facility. Settling Defendant shall provide the notice after the award of the contract for Remedial Action construction and before the Waste Material is shipped.

- (c) Settling Defendant may ship Investigation Derived Waste (IDW) from the AVX Property to an off-site facility only if it complies with CERCLA § 121(d)(3), 40 C.F.R. § 300.440, *EPA's Guide to Management of Investigation Derived Waste*, OSWER 9345.3-03FS (Jan. 1992), and any IDW-specific requirements contained in the Record of Decision. Wastes shipped off-site to a laboratory for characterization, and RCRA hazardous wastes that meet the requirements for an exemption from RCRA under 40 CFR § 261.4(e) shipped off-site for treatability studies, are not subject to 40 C.F.R. § 300.440.

5.6 Certification of Remedial Action and Work Completion

- (a) **Remedial Action and Work Completion Inspection.** Settling Defendant shall schedule an inspection for the purpose of obtaining EPA's Certification of Remedial Action and Work Completion. The inspection must be attended by Settling Defendant and EPA and/or their representatives.
- (b) **Remedial Action Report.** Following completion of the Remedial Action and after the Remedial Action and Work Completion Inspection, Settling Defendant shall submit a "Remedial Action Report" requesting EPA's determination that the Remedial Action and the Work have been completed. The Remedial Action Report must: (1) include statements by a registered professional engineer licensed in New York and by Settling Defendant's Project Coordinator that the Remedial Action and Work are complete; (2) include as-built drawings signed and stamped by a registered professional engineer licensed in New York; (3) be prepared in accordance with Chapter 2 (Remedial Action Completion) of EPA's *Close Out Procedures for NPL Sites* guidance (May 2011), as supplemented by *Guidance for Management of Superfund Remedies in Post Construction*, OLEM 9200.3-105 (Feb. 2017); (4) contain monitoring data to demonstrate that Remediation Goals have been achieved; and (5) be certified in accordance with ¶ 7.5 (Certification).
- (c) If EPA concludes that the Remedial Action is not Complete, EPA shall so notify Settling Defendant. EPA's notice must include a description of any deficiencies. EPA's notice may include a schedule for addressing such deficiencies or may require Settling Defendant to submit a schedule for EPA approval. Settling Defendant shall perform all activities described in the notice in accordance with the schedule.
- (d) If EPA concludes, based on the initial or any subsequent Remedial Action Report requesting Certification of Remedial Action and Work Completion, that the Remedial Action and Work are Complete, EPA shall so certify to Settling Defendant. This certification will constitute the Certification of Remedial Action Completion for purposes of the Decree, including Section XIV of the Decree

(Covenants by Plaintiff). Certification of Remedial Action Completion will not affect Settling Defendant's remaining obligations under the Decree.

- (e) Issuance of the Certification of Remedial Action and Work Completion does not affect the following continuing obligations: (1) obligations under Sections **VII** (Property Requirements), and **XVII** (Records) of the Decree; and (2) reimbursement of EPA's Future Response Costs under Section **X** (Payments for Response Costs) of the Decree.

6. REPORTING

6.1 Progress Reports. Commencing with the first month following lodging of the Decree and until EPA approves the Remedial Action Construction Completion, Settling Defendant shall submit progress reports to EPA on a monthly basis, or as otherwise requested by EPA. The reports must cover all activities that took place during the prior reporting period, including:

- (a) The actions that have been taken toward achieving compliance with the Decree;
- (b) A summary of all results of sampling, tests, and all other data received or generated by Settling Defendant;
- (c) A description of all deliverables that Settling Defendant submitted to EPA;
- (d) A description of all activities relating to Remedial Action Construction that are scheduled for the next six weeks;
- (e) An updated Remedial Action Construction Schedule, together with information regarding percentage of completion, delays encountered or anticipated that may affect the future schedule for implementation of the Work, and a description of efforts made to mitigate those delays or anticipated delays;
- (f) A description of any modifications to the work plans or other schedules that Settling Defendant has proposed or that have been approved by EPA; and
- (g) A description of all activities undertaken in support of the Community Involvement Plan ("CIP") during the reporting period and those to be undertaken in the next six weeks.

6.2 Notice of Progress Report Schedule Changes. If the schedule for any activity described in the Progress Reports, including activities required to be described under ¶ 6.1(d), changes, Settling Defendant shall notify EPA of such change at least seven days before performance of the activity.

7. DELIVERABLES

- 7.1 Applicability.** Settling Defendant shall submit deliverables for EPA approval or for EPA comment as specified in the SOW. If neither is specified, the deliverable does not require EPA's approval or comment. Paragraphs 7.2 (In Writing) through 7.4 (Technical Specifications) apply to all deliverables. Paragraph 7.5 (Certification) applies to any deliverable that is required to be certified. Paragraph 7.6 (Approval of Deliverables) applies to any deliverable that is required to be submitted for EPA approval.
- 7.2 In Writing.** As provided in ¶ 73 of the Decree, all deliverables under this SOW must be in writing unless otherwise specified.
- 7.3 General Requirements for Deliverables.** All deliverables must be submitted by the deadlines in the Remedial Design Schedule or Remedial Action Schedule, as applicable. Settling Defendant shall submit all deliverables to EPA in electronic form. Technical specifications for sampling and monitoring data and spatial data are addressed in ¶ 7.4. All other deliverables shall be submitted to EPA in the electronic form specified by the EPA Project Coordinator. If any deliverable includes maps, drawings, or other exhibits that are larger than 8.5" by 11", Settling Defendant shall also provide EPA with paper copies of such exhibits, upon EPA request.
- 7.4 Technical Specifications**
- (a) Sampling and monitoring data should be submitted in standard regional Electronic Data Deliverable ("EDD") format which can be found at <https://www.epa.gov/superfund/region-2-superfund-electronic-data-submission>. Other delivery methods may be allowed if electronic direct submission presents a significant burden or as technology changes.
 - (b) Spatial data, including spatially-referenced data and geospatial data, should be submitted: (1) in the ESRI File Geodatabase format and (2) as unprojected geographic coordinates in decimal degree format using North American Datum 1983 ("NAD83") or World Geodetic System 1984 (WGS84) as the datum. If applicable, submissions should include the collection method(s). Projected coordinates may optionally be included but must be documented. Spatial data should be accompanied by metadata, and such metadata should be compliant with the Federal Geographic Data Committee ("FGDC") Content Standard for Digital Geospatial Metadata and its EPA profile, the EPA Geospatial Metadata Technical Specification. An add-on metadata editor for ESRI software, the EPA Metadata Editor ("EME"), complies with these FGDC and EPA metadata requirements and is available at <https://edg.epa.gov/EME/>.
 - (c) Each file must include an attribute name for each site unit or sub-unit submitted. Consult <https://www.epa.gov/geospatial/geospatial-policies-and-standards> for any further available guidance on attribute identification and naming.

- (d) Spatial data submitted by Settling Defendant does not, and is not intended to, define the boundaries of the Site.

7.5 Certification. All deliverables that require compliance with this paragraph must be signed by the Settling Defendant's Project Coordinator, or other responsible official of Settling Defendant, and must contain the following statement:

I certify under penalty of perjury that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

7.6 Approval of Deliverables

(a) Initial Submissions

- (1) After review of any deliverable that is required to be submitted for EPA approval under the Decree or the SOW, EPA shall: (i) approve, in whole or in part, the submission; (ii) approve the submission upon specified conditions; (iii) disapprove, in whole or in part, the submission; or (iv) any combination of the foregoing.
- (2) EPA also may modify the initial submission to cure deficiencies in the submission if: (i) EPA determines that disapproving the submission and awaiting a resubmission would cause substantial disruption to the Work; or (ii) previous submission(s) have been disapproved due to material defects and the deficiencies in the initial submission under consideration indicate a bad faith lack of effort to submit an acceptable deliverable.

- (b) **Resubmissions.** Upon receipt of a notice of disapproval under ¶ 7.6(a) (Initial Submissions), or if required by a notice of approval upon specified conditions under ¶ 7.6(a), Settling Defendant shall, within 30 days or such longer time as specified by EPA in such notice, correct the deficiencies and resubmit the deliverable for approval. After review of the resubmitted deliverable, EPA may: (1) approve, in whole or in part, the resubmission; (2) approve the resubmission upon specified conditions; (3) modify the resubmission; (4) disapprove, in whole or in part, the resubmission, requiring Settling Defendant to correct the deficiencies; or (5) any combination of the foregoing.

- (c) **Implementation.** Upon approval, approval upon conditions, or modification by EPA under ¶ 7.6(a) (Initial Submissions) or ¶ 7.6(b) (Resubmissions), of any deliverable, or any portion thereof: (1) such deliverable, or portion thereof, will be incorporated into and enforceable under the Decree; and (2) Settling Defendant shall take any action required by such deliverable, or portion thereof. The implementation of any non-deficient portion of a deliverable submitted or resubmitted under ¶ 7.6(a) or ¶ 7.6(b) does not relieve Settling Defendant of any liability for stipulated penalties under Section **XIII** (Stipulated Penalties) of the Decree.
- (d) If: (1) an initially submitted deliverable contains a material defect and the conditions are met for modifying the deliverable under ¶ 7.6(a)(2); or (2) a resubmitted deliverable contains a material defect; then the material defect constitutes a lack of compliance for purposes of this Paragraph.

7.7 Supporting Deliverables. Settling Defendant shall submit each of the following supporting deliverables for EPA approval, except as specifically provided. Settling Defendant shall develop the deliverables in accordance with all applicable regulations, guidances, and policies (see Section 10 (References)). Settling Defendant shall update each of these supporting deliverables as necessary or appropriate during the course of the Work, and/or as requested by EPA.

- (a) **Health and Safety Plan (“HASP”).** The HASP describes all activities to be performed to protect on site personnel and area residents from physical, chemical, and all other hazards posed by the Work. Settling Defendant shall develop the HASP in accordance with EPA’s *Emergency Responder Health and Safety Manual* and Occupational Safety and Health Administration (“OSHA”) requirements under 29 C.F.R. §§ 1910 and 1926. The HASP should cover Remedial Design activities and should be, as appropriate, updated to cover activities during the Remedial Action and updated to cover activities after Remedial Action completion. EPA does not approve the HASP but will review it to ensure that all necessary elements are included and that the plan provides for the protection of human health and the environment.
- (b) **Emergency Response Plan (“ERP”).** The ERP must describe procedures to be used in the event of an accident or emergency at the Site (for example, power outages, water impoundment failure, treatment plant failure, slope failure, etc.). The ERP must include:
 - (1) Name of the person or entity responsible for responding in the event of an emergency incident;
 - (2) Plan and date(s) for meeting(s) with the local community, including local, State, and federal agencies involved in the cleanup, as well as local emergency squads and hospitals;

- (3) Spill Prevention, Control, and Countermeasures (“SPCC”) Plan (if applicable), consistent with the regulations under 40 C.F.R. part 112, describing measures to prevent, and contingency plans for, spills and discharges;
 - (4) Notification activities in accordance with ¶ 5.4(b) (Release Reporting) in the event of a release of hazardous substances requiring reporting under CERCLA § 103 or EPCRA § 304; and
 - (5) A description of all necessary actions to ensure compliance with ¶ 5.4 of the SOW in the event of an occurrence during the performance of the Work that causes or threatens a release of Waste Material from the AVX Property that constitutes an emergency or may present an immediate threat to public health or welfare or the environment.
- (c) **Field Sampling Plan (“FSP”).** The FSP addresses all sample collection activities. The FSP must be written so that a field sampling team unfamiliar with the project would be able to gather the samples and field information required. Settling Defendant shall develop the FSP in accordance with *Guidance for Conducting Remedial Investigations and Feasibility Studies*, EPA/540/G 89/004 (Oct. 1988).
- (d) **Quality Assurance Project Plan (“QAPP”).** The QAPP must include a detailed explanation of Settling Defendant’s quality assurance, quality control, and chain of custody procedures for all treatability, design, compliance, and monitoring samples. Settling Defendant shall develop the QAPP in accordance with EPA Directive CIO 2105.1 (Environmental Information Quality Policy, 2021), the most recent version of *Quality Management Systems for Environmental Information and Technology Programs – Requirements with Guidance for Use*, ASQ/ANSI E-4 (Feb. 2014, and *Guidance for Quality Assurance Project Plans*, EPA QA/G-5, EPA Office of Environmental Information (Dec. 2002). Settling Defendant shall collect, produce, and evaluate all environmental information at the AVX Property in accordance with the approved QAPP.
- (e) **Community Impacts Mitigation Plan (“CIMP”).** The CIMP describes all activities to be performed: (1) to reduce and manage the impacts from remedy implementation (*e.g.*, air emissions, traffic, noise, odor, temporary or permanent relocation) to residential areas, schools, playgrounds, healthcare facilities, or recreational or impacted public areas (“Community Areas”) from and during remedy implementation, (2) to conduct monitoring in Community Areas of impacts from remedy implementation, (3) to expeditiously communicate validated remedy implementation monitoring data, (4) to make adjustments during remedy implementation in order to further reduce and manage impacts from remedy implementation to affected Community Areas, (5) to expeditiously restore community resources damaged during remediation such as roads and culverts, and (6) to mitigate the economic effects that the Remedial Action will have on the

community by structuring remediation contracts to allow more local business participation. The CIMP should contain information about impacts to Community Areas that is sufficient to assist EPA's Project Coordinator in performing the evaluations recommended under the *Superfund Community Involvement Handbook*, OLEM 9230.0-51 (March 2020), pp. 53-56.

- (f) **Construction Quality Assurance Plan ("CQAP") and Construction Quality Control Plan ("CQCP").** The purpose of the CQAP is to describe planned and systemic activities that provide confidence that the Remedial Action construction will satisfy all plans, specifications, and related requirements, including quality objectives. The purpose of the CQCP is to describe the activities to verify that Remedial Action construction has satisfied all plans, specifications, and related requirements, including quality objectives. The CQAP/CQCP ("CQA/CP") must:
- (1) Identify, and describe the responsibilities of, the organizations and personnel implementing the CQA/CP;
 - (2) Describe the Performance Standards required to be met to achieve Completion of the Remedial Action;
 - (3) Describe the activities to be performed: (i) to provide confidence that Performance Standards will be met; and (ii) to determine whether Performance Standards have been met;
 - (4) Describe verification activities, such as inspections, sampling, testing, monitoring, and production controls, under the CQA/CP;
 - (5) Describe industry standards and technical specifications used in implementing the CQA/CP;
 - (6) Describe procedures for tracking construction deficiencies from identification through corrective action;
 - (7) Describe procedures for documenting all CQA/CP activities; and
 - (8) Describe procedures for retention of documents and for final storage of documents.
- (g) **O&M Plan.** The O&M Plan submitted pursuant to the OU2 Amended SOW, shall be updated to the extent necessary to describe the requirements for inspecting, operating, and maintaining the OU5 Remedial Action. Settling Defendant shall update the Amended OU2 O&M Plan in accordance with *Guidance for Management of Superfund Remedies in Post Construction*, OLEM 9200.3-105 (Feb. 2017). The O&M Plan must include the following additional requirements:

- (1) Description of Performance Standards required to be met to implement the Record of Decision;
- (2) Description of activities to be performed: (i) to provide confidence that Performance Standards will be met; and (ii) to determine whether Performance Standards have been met;
- (3) **O&M Reporting.** Description of records and reports that will be generated during O&M, such as daily operating logs, laboratory records, records of operating costs, reports regarding emergencies, personnel and maintenance records, monitoring reports, and monthly and annual reports to EPA and State agencies;
- (4) Description of corrective action in case of systems failure, including:
(i) alternative procedures to prevent the release or threatened release of Waste Material which may endanger public health and the environment or may cause a failure to achieve Performance Standards; (ii) analysis of vulnerability and additional resource requirements should a failure occur; (iii) notification and reporting requirements should O&M systems fail or be in danger of imminent failure; and (iv) community notification requirements; and
- (5) Description of corrective action to be implemented in the event that Performance Standards are not achieved; and a schedule for implementing these corrective actions.

8. SCHEDULES

- 8.1 Applicability and Revisions.** All deliverables and tasks required under this SOW must be submitted or completed by the deadlines or within the time durations listed in the Remedial Design and Remedial Action Schedules set forth below. Settling Defendant may submit proposed revised Remedial Design Schedules or Remedial Action Schedules for EPA approval. Upon EPA's approval, the revised Remedial Design and/or Remedial Action Schedules supersede the Remedial Design and Remedial Action Schedules set forth below, and any previously-approved Remedial Design and/or Remedial Action Schedules.

8.2 Remedial Design Schedule

	Description of Deliverable, Task	¶ Ref.	Deadline
1	RDWP and all supporting deliverables	4.1	75 days after EPA's Authorization to Proceed regarding Supervising Contractor (¶ 3.3).
2	PDIWP	4.3(a)	75 days after EPA's Authorization to Proceed regarding Supervising Contractor (¶ 3.3), if deemed necessary by EPA or Settling Defendant.
3	PDI Evaluation Report	4.3(b)	60 days following EPA's determination that the initial data collected during the PDI is sufficient to complete the PDI Evaluation Report.
6	Preliminary (30%) Remedial Design	4.4	180 days after EPA approval of Final RDWP
7	Intermediate (60%) Remedial Design	4.5	90 days after EPA comments on Preliminary Remedial Design, if required by EPA
8	Pre-final (95%) Remedial Design	4.6	120 days after receipt of EPA's comments on the Preliminary (30%) RD if no Intermediate (60%) RD is required by EPA, or, if EPA requires an Intermediate (60%) RD, then 60 days after receipt of EPA comments on the Intermediate (60%) RD.
9	Final (100%) Remedial Design	4.7	30 days after EPA comments on Pre-final Remedial Design.

8.3 Remedial Action Schedule

	Description of Deliverable / Task	¶ Ref.	Deadline
1	Award Remedial Action contract		60 days after EPA Notice of Authorization to Proceed with Remedial Action
2	RAWP (including the CIMP and the CQAP)	5.1	75 days after EPA Notice of Authorization to Proceed with Remedial Action
3	Pre-Construction Conference	5.2(a)	30 days after Approval of RAWP
4	Start of Construction		60 days after Approval of RAWP
5	Completion of Construction		120 days after Start of Construction
6	Remedial Action and Work Completion Inspection	5.6(a)	14 days after completion of construction
7	Remedial Action Report	5.6(b)	60 days after completion of Remedial Action and Work Completion Inspection

9. STATE PARTICIPATION

- 9.1 Copies.** Settling Defendant shall, at any time they send a deliverable to EPA, send a copy of such deliverable to the State. EPA shall, at any time it sends a notice, authorization, approval, disapproval, or certification to Settling Defendant, send a copy of such document to the State.
- 9.2 Review and Comment.** The State will have a reasonable opportunity for review and comment prior to:
- (a) Any EPA notice to proceed under ¶ 3.3 (Procedures for Disapproval/Notice to Proceed);
 - (b) Any EPA approval or disapproval under ¶ 7.6 (Approval of Deliverables) of any deliverables that are required to be submitted for EPA approval; and
 - (c) Any approval or disapproval of the Construction Phase under ¶ 5.6 (Certification of Remedial Action and Work Completion).

10. REFERENCES

- 10.1** The following regulations and guidance documents, among others, may apply to the Work. Any item for which a specific URL is not provided below is available on one of the three EPA web pages listed in ¶ 10.2:
- (a) A Compendium of Superfund Field Operations Methods, OSWER 9355.0-14, EPA/540/P-87/001a (Aug. 1987).
 - (b) CERCLA Compliance with Other Laws Manual, Part I: Interim Final, OSWER 9234.1-01, EPA/540/G-89/006 (Aug. 1988).
 - (c) Guidance for Conducting Remedial Investigations and Feasibility Studies, OSWER 9355.3-01, EPA/540/G-89/004 (Oct. 1988).
 - (d) CERCLA Compliance with Other Laws Manual, Part II, OSWER 9234.1-02, EPA/540/G-89/009 (Aug. 1989).
 - (e) Guidance on EPA Oversight of Remedial Designs and Remedial Actions Performed by Potentially Responsible Parties, OSWER 9355.5-01, EPA/540/G90/001 (Apr.1990).
 - (f) Guidance on Expediting Remedial Design and Remedial Actions, OSWER 9355.5-02, EPA/540/G-90/006 (Aug. 1990).
 - (g) Guide to Management of Investigation-Derived Wastes, OSWER 9345.3-03FS (Jan. 1992).

- (h) Permits and Permit Equivalency Processes for CERCLA On-Site Response Actions, OSWER 9355.7-03 (Feb. 1992).
- (i) Guidance for Conducting Treatability Studies under CERCLA, OSWER 9380.3-10, EPA/540/R-92/071A (Nov. 1992).
- (j) National Oil and Hazardous Substances Pollution Contingency Plan; Final Rule, 40 C.F.R. part 300 (Oct. 1994).
- (k) Guidance for Scoping the Remedial Design, OSWER 9355.0-43, EPA/540/R-95/025 (Mar. 1995).
- (l) Remedial Design/Remedial Action Handbook, OSWER 9355.0-04B, EPA/540/R-95/059 (June 1995).
- (m) EPA Guidance for Data Quality Assessment, Practical Methods for Data Analysis, QA/G-9, EPA/600/R-96/084 (July 2000).
- (n) Comprehensive Five-year Review Guidance, OSWER 9355.7-03B-P, EPA/540-R-01-007 (June 2001).
- (o) Guidance for Quality Assurance Project Plans, EPA QA/G-5, EPA Office of Environmental Information (Dec. 2002) <https://www.epa.gov/quality/guidance-quality-assurance-project-plans-epa-qag-5>.
- (p) Institutional Controls: Third-Party Beneficiary Rights in Proprietary Controls, OECA (Apr. 2004).
- (q) EPA Guidance on Systematic Planning Using the Data Quality Objectives Process, QA/G-4, EPA/240/B-06/001 (Feb. 2006).
- (r) EPA Requirements for Quality Management Plans, QA/R-2, EPA/240/B-01/002 (Mar. 2001, reissued May 2006).
- (s) EPA National Geospatial Data Policy, CIO Policy Transmittal 05-002 (Aug. 2005), <https://www.epa.gov/geospatial/epa-national-geospatial-data-policy>.
- (t) Summary of Key Existing EPA CERCLA Policies for Groundwater Restoration, OSWER 9283.1-33 (June 2009).
- (u) Principles for Greener Cleanups (Aug. 2009), <https://www.epa.gov/greenercleanups/epa-principles-greener-cleanups>.
- (v) EPA Region 2 Clean and Green Policy, available at <https://www.epa.gov/greenercleanups/epa-region-2-clean-and-green-policy>

- (w) Close Out Procedures for National Priorities List Sites, OSWER 9320.2-22 (May 2011).
- (x) Groundwater **Road Map: Recommended Process for Restoring Contaminated Groundwater at Superfund Sites**, OSWER 9283.1-34 (July 2011).
- (y) Recommended Evaluation of Institutional Controls: Supplement to the “Comprehensive Five-Year Review Guidance,” OSWER 9355.7-18 (Sep. 2011).
- (z) Plan EJ 2014: Legal Tools, EPA Office of General Counsel (Dec. 2011), <https://www.epa.gov/environmentaljustice/plan-ej-2014-legal-tools-development>.
- (aa) Construction Specifications Institute’s MasterFormat **2020 or a later edition**, available from the Construction Specifications Institute, <http://www.csinet.org/masterformat>.
- (bb) Updated Superfund Response and Settlement Approach for Sites Using the Superfund Alternative Approach, OSWER 9200.2-125 (Sep. 2012)
- (cc) Institutional Controls: A Guide to Planning, Implementing, Maintaining, and Enforcing Institutional Controls at Contaminated Sites, OSWER 9355.0-89, EPA/540/R-09/001 (Dec. 2012), <https://semspub.epa.gov/work/HQ/175446.pdf>.
- (dd) Institutional Controls: A Guide to Preparing Institutional Controls Implementation and Assurance Plans at Contaminated Sites, OSWER 9200.0-77, EPA/540/R-09/02 (Dec. 2012), <https://semspub.epa.gov/work/HQ/175449.pdf>.
- (ee) [EPA’s Emergency Responder Health and Safety Manual](#), [OSWER 9285.3-12](#) (July 2005 and updates), https://www.epaossc.org/_HealthSafetyManual/manual-index.htm.
- (ff) Broader Application of Remedial Design and Remedial Action Pilot Project Lessons Learned, OSWER 9200.2-129 (Feb. 2013).
- (gg) Guidance for Evaluating Completion of Groundwater Restoration Remedial Actions, OSWER 9355.0-129 (Nov. 2013).
- (hh) Groundwater Remedy Completion Strategy: Moving Forward with the End in Mind, OSWER 9200.2-144 (May 2014).
- (ii) Quality Management Systems for Environmental Information and Technology Programs -- Requirements with Guidance for Use, ASQ/ANSI E-4 (February 2014), available at <https://webstore.ansi.org/>.
- (jj) Guidance for Management of Superfund Remedies in Post Construction, OLEM 9200.3-105 (Feb. 2017), <https://www.epa.gov/superfund/superfund-post-construction-completion>.

- (kk) Advanced Monitoring Technologies and Approaches to Support Long-Term Stewardship (July 20, 2018), <https://www.epa.gov/enforcement/use-advanced-monitoring-technologies-and-approaches-support-long-term-stewardship>.
- (ll) Superfund Community Involvement Handbook, OLEM 9230.0-51 (March 2020). More information on Superfund community involvement is available on the Agency's Superfund Community Involvement Tools and Resources web page at <https://www.epa.gov/superfund/superfund-community-involvement-tools-and-resources>.
- (mm) EPA directive CIO 2105.1 (Environmental Information Quality Policy, 2021), https://www.epa.gov/system/files/documents/2022-07/environmental_information_quality_policy.pdf.

10.2 A more complete list may be found on the following EPA web pages:

- (a) Laws, Policy, and Guidance at <https://www.epa.gov/superfund/superfund-policy-guidance-and-laws>;
- (b) [Search Superfund Documents at https://www.epa.gov/superfund/search-superfund-documents](https://www.epa.gov/superfund/search-superfund-documents); and
- (c) Test Methods Collections at: <https://www.epa.gov/measurements/collection-methods>.

10.3 For any regulation or guidance referenced in the Decree or SOW, the reference will be read to include any subsequent modification, amendment, or replacement of such regulation or guidance. Such modifications, amendments, or replacements apply to the Work only after Settling Defendant receives notification from EPA of the modification, amendment, or replacement.

U.S. v. Kyocera AVX Components Corporation (W.D.N.Y.)

Consent Decree Regarding Olean Wellfield Superfund Site

Appendix C

Map of Site

